Memorials of the Goodwin Sands.

G. Byng Gattie.

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MEMORIALS

OF THE

GOODWIN SANDS.

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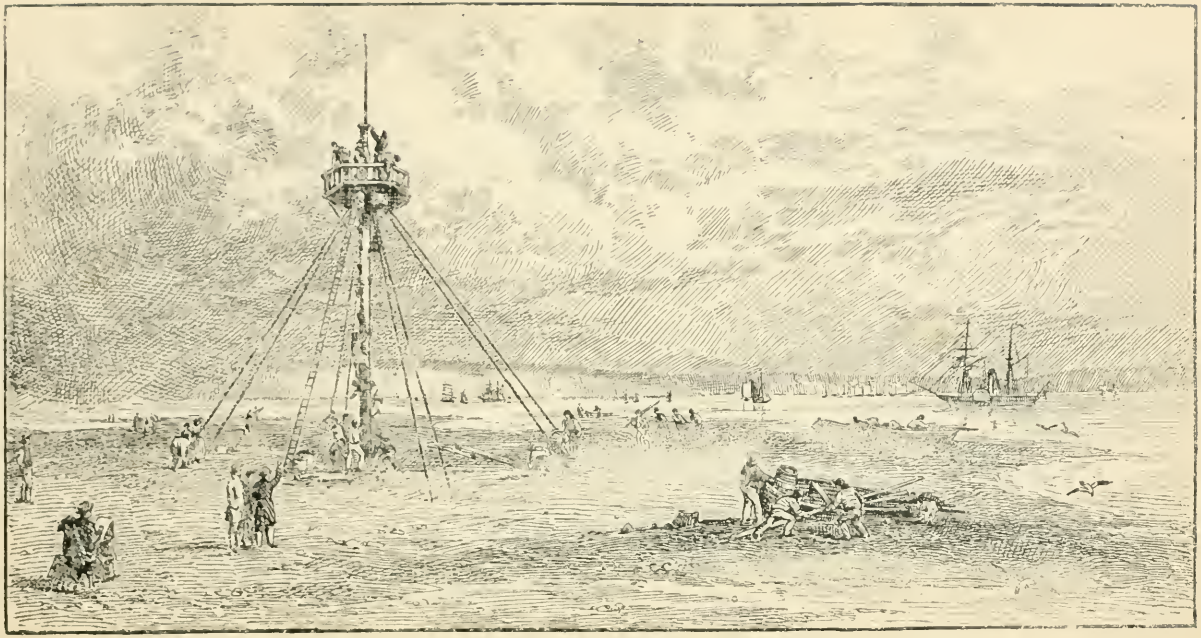

THE FIRST SAFETY BEACON ERECTED BY CAPTAIN BULLOCK, R.N., IN 1840.
From a Drawing taken on the spot by S. Owen, Esq.

MEMORIALS

OF THE

GOODWIN SANDS,

AND THEIR SURROUNDINGS,

LEGENDARY AND HISTORICAL.

BY

GEORGE BYNG GATTIE,

LATE H. M.'S CIVIL SERVICE.

WITH MAPS, CHARTS, AND ILLUSTRATIONS.

THE "KELKEL" EDITION.

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"Here hostile elements tumultuous rise,
And lawless floods rebel against the skies;
Till hope expires, and peril and dismay
Wave their black ensigns o'er the wat'ry way."

Falconer.

GB
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1904

To

ADMIRAL H.R.H. ALFRED ERNEST ALBERT,

DUKE OF EDINBURGH, K.G., K.T., &c., &c.,

MASTER OF THE TRINITY HOUSE,

THESE SKETCHES ARE,

WITH THE GRACIOUS PERMISSION OF HIS ROYAL HIGHNESS,

MOST RESPECTFULLY AND LOYALLY DEDICATED

BY THE AUTHOR.

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PREFACE.

In a great commercial country like England it is perhaps only natural to suppose that anything and everything concerning her ships, her sailors, and her commerce would be a source of much interest to, at least, a fairly large section of the community. It was therefore thought that a sketch might not be altogether unacceptable embracing the history, legendary as well as accredited, of a singular region which for centuries has been only too celebrated as the most dangerous spot on the British coasts, and which is known to have been, and indeed still is, the "grave of many a tall and stately ship," together with its crew and cargo. Nothing of the kind, so far as the writer is aware, has hitherto ever been attempted; for, excepting short notices in county histories, encyclopædias, gazetteers, guide books, and in Mr. Whymper's work on 'The Sea,' the famous "Goodwins" have never yet been made the subject of any complete account dealing historically with the Sands, and the remarkable events of which their immediate surroundings have been so often the theatre during the last eight hundred years.

In the following pages the fanciful legends and stories of the origin of the Sands and their connection with the "Isle of Lomea" (the "Insula Infera" of the

Romans), together with the best known historical facts, bearing upon the whole question, have been carefully brought together. To these have been added many curious and quaint details, with accompanying illustrations, regarding some of the extraordinary schemes which have been proposed, from time to time, for reclaiming, and even *building* on, these loose and shifting banks; with much interesting information appertaining to the Sands and the neighbouring coasts, referring generally to the entire subject. Observations will also be found on the early origin, in the thirteenth century, of the East Kent "Hovellers," and also on the lightships, beacons, and buoys, placed as sentinels to warn mariners off these dangerous and fatal shoals.

I must beg leave to express my warmest thanks and acknowledgments to John Inglis, Esq., the Secretary to the Corporation of Trinity House, not only for the very great assistance which I have derived from reference to the library books and official records of that Corporation—access to which was always most readily permitted—but also for the untiring courtesy which I have invariably experienced at his hands.

To Charles Dibdin, Esq, F.R.G.S., Secretary to the "Royal National Lifeboat Institution," my best thanks are also due for obligingly furnishing me with the Reports of the Institution, and other documents relating to the work of the Society, from which I have derived very much useful and interesting information.

To many private friends also I am greatly indebted, not only for sound practical suggestions, but for valuable and encouraging help.

G. B. G.

Hastings, 1885.

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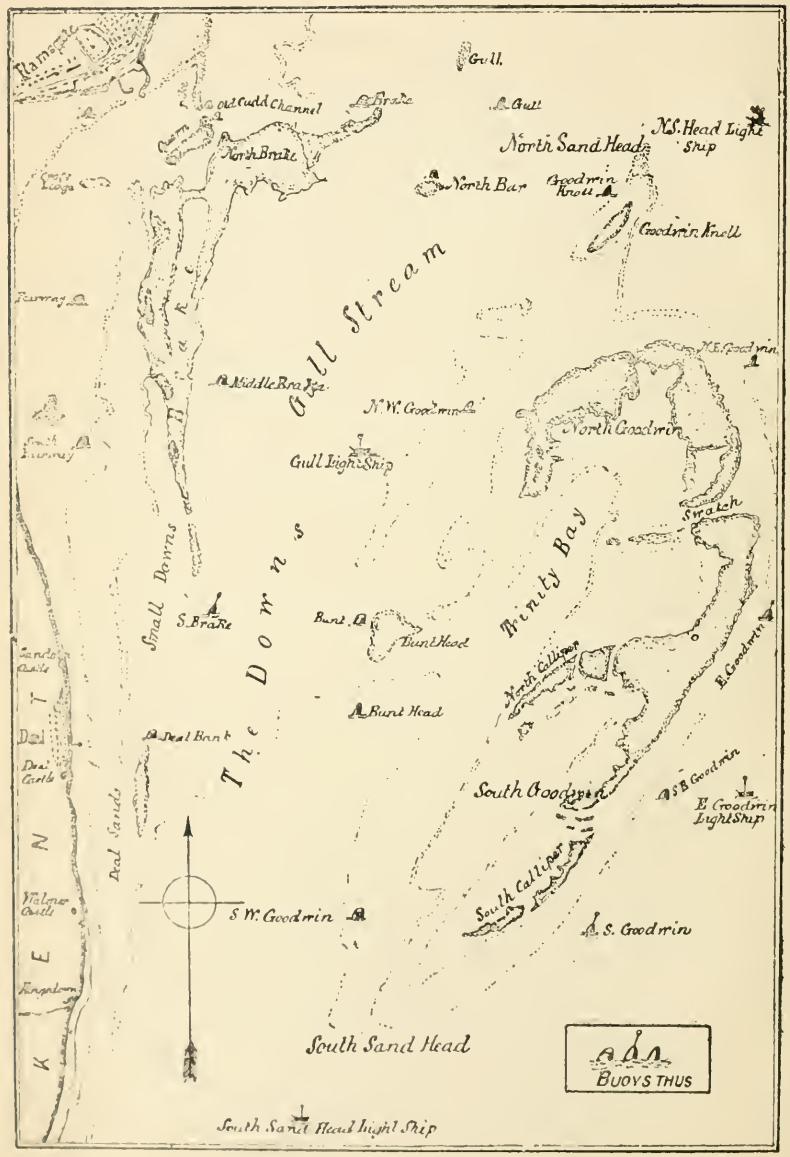


CHART OF THE GOODWIN SANDS.

MEMORIALS

OF

THE GOODWIN SANDS.

CHAPTER I.

GEOGRAPHICAL.

The celebrity of the Goodwin Sands—Their evil reputation for centuries—Their use—Their position—Dimensions—Composition—Sir J. H. Pelly's remarkable experiment—Depth of clay below the surface—Opinions on their origin—Waste of cliffs—The Sands formerly an island—Not quicksands—General appearance—One vast "Golgotha"—Buried Wealth—A natural breakwater to the Downs.

If there are many places far more celebrated, it is quite certain that there are few more dreaded by all those "who go down to the sea in ships, and occupy their business in great waters," than the famous Goodwin Sands. The very name—"the Goodwins!"—seems to have a terribly significant meaning, and carries an ominous ring about it that invariably suggests, whenever we hear it, something in some way or other mysteriously suggestive of death and destruction in connection with disasters at sea, and disasters in themselves usually the most appalling and complete,

for the Goodwins rarely do their fearful work by halves. Nor can this be altogether a matter of surprise when it is remembered that for nearly eight hundred years these Sands have had an evil reputation; and, if we except one remarkable service which they undoubtedly render—as we shall presently see *—they have simply nothing whatever to recommend them to favourable notice in any way at all beyond the bare fact of their being a natural and geographical curiosity. Unlike the mighty cliff on some rugged iron-bound coast, which—though probably quite as dangerous in its own way—yet possesses in itself a majestic grandeur and beauty which it is impossible to help admiring (from an artistic point of view at least) as it stands, in its solitary greatness, calm and immovable with the angry breakers lashing themselves into impotent fury at its foot. Unlike such a cliff, the Sands present no single point of admiration; in fact, from their being almost constantly submerged, they are necessarily out of sight, except at the low tides when their more elevated portions are visible above water, and present the appearance of a small archipelago of islands.

A glance at the chart facing page 1 will show the exact shape of the Goodwin Sands, and their position on the east coast of Kent. They lie between latitude 51° 9′ 35″ and 51° 19′ 23″, and their extreme length, measuring from the 3-fathom level at the North Sand Head to the same level at the South Sand Head, is 17,980 yards, or nearly ten miles and a quarter; and their extreme breadth from the Bunt Head to the

* See Chap. III., p. 47.

Barrier Edge is 7667 yards, or rather more than four miles and a quarter. The extent of the portion of the bank which is left dry, in certain places, at low water is altogether 12,364 yards long, and 6532 yards broad; that is to say, about seven miles long, by about three and a half wide. The elevated spots enclosed within the last dimensions, at ordinary spring tides, are left dry at low water for about 3½ to 5½ feet—average 4½ feet—and at these times their surfaces remain dry for three hours. The rise and fall of the tide being 16½ feet, these spots are usually covered, on an average at high water, to the extent of 12 feet.

The nature of the sand is remarkably clean and free from clay and mud, as might naturally be expected from the constant washing to which it is exposed. Smeaton, the great engineer and builder of the third Eddystone Lighthouse, surveyed the Sands in 1789, and stated that "although they were of the nature of a quicksand, clean and unconnected, yet the particles lay so close that it was difficult to work a pointed iron bar into the mass more than to a depth of six or seven feet." In 1817, when boring on the possible chance of discovering a foundation for a contemplated light-house, the Trinity Board appear to have reported that the sand only reached to the depth of 15 feet, and rested on blue clay, below which chalk was found; and this statement seems to have been partly corroborated by the late Admiral Bullock, the very ingenious constructor of the first "Safety Beacon" ever erected on the Goodwins, in 1840, who found the sand at the depth of 7½ feet had become so dense and cohesive that his boring tools were broken in the efforts to make them

penetrate lower. In fact, boring has always been found to be nearly useless here, whether for the purposes of investigation or otherwise, for when the auger is withdrawn the live sand fills up the orifice and polishes the auger so effectually, in its return through it, that all traces of the chalk or soil, which it might have reached in its lowest depression, are completely obliterated. Besides this, at depths varying from $7\frac{1}{2}$ feet, according to Admiral Bullock—but as much as 15 feet according to others—the tools were generally twisted and broken from the great force used upon them, and the compact density of the sand. This may seem incredible, but there is ample evidence on record to prove the truth of the assertion. This fact has often raised the question as to whether the Sands are really "quick" or not; a question which has been disputed with much ability by more than one writer—notably Mr. Boys, the antiquarian and historian of Sandwich, who maintains that at the depth of 6 or 7 feet a hard and tenacious bottom is reached, and that the soft and spongy nature of the Sands extends only to that small depth; and this certainly seems confirmed by the various statements of almost every one who has investigated this interesting subject, at least up to the year 1849.

In that year, however, much new light was thrown on this question by a remarkable experiment conducted by order of the Trinity Board in Octol , 1849, under the direction of Sir J. H. Pelly, Bart., Deputy Master of the Trinity House, and Captain R. Davis, R.N., in order to determine the geological formation of the Sands, and to ascertain on what they rested, and thus, if possible, to settle this oft-disputed point, which has

been the subject of so much controversy. To carry out this experiment an iron cylinder, 2 feet 6 inches in diameter, was sunk in 10 lengths by Dr. Potts' ingenious plan of atmospheric pressure,* until it reached the depth of 78 feet, when it stopped at the solid chalk. The deposits brought up through the cylinder as it descended were described as follows :—

At the following depth in feet.	The following deposits were found.
10	Clear bright sand.
24	Do. do. bluish cast.
30	Do. do. deeper blue, sulphuretted smell.
46	Do. do. colour of blue clay.
51	Small stones, broken shells, chalk nodules.
56	Bright sand.
62	Clear broken shells.
67	Decayed wood. sea-coal, broken shells, small stones.
68	Dark fœtid sand.
70	Shells, black nodules of clay.
72	Clean bright sand, pebbles, chalk, milky-coloured water.
78	Pure chalk only.

This curious experiment, showing that clear bright sand extends down to 46 feet, completely contradicts the statement of Mr. Boys that a "hard, tenacious bottom is found at 6 or 7 feet," when, in reality, the only firm reliable "bottom"—the chalk—is not found at all until a depth of 78 feet is reached. But here a very interesting question arises, and that is just this :—Is the chalk bed, on which the Goodwins rest, a dead level throughout the whole extent of the Sands? And because Sir J. H. Pelly, at a certain given point,

* See Appendix No. 1.

found the clay level at a depth of 78 feet below the surface, does it necessarily follow that the clay bed would be met with at the same depth throughout the entire area of the Sands? It is quite possible that the clay may rise in one place, and yet be depressed in another, which circumstance would be found to make a very material difference in any measurements taken downwards from the surface of the sand; so that the statements of Boys, Smeaton, and others, that clay was found at 7 or 8 feet may be, after all, perfectly correct as regards *one* particular spot, just as Sir J. H. Pelly found clay at 78 feet at *another* spot, and Mr. Walker found it at 57 feet at North Sand Head, 49 feet farther on south, and 78 feet at the South Sand Head.

The opinion entertained by the late Captain Kennett Beacham Martin, formerly Harbour Master of Ramsgate, who devoted much time and attention to this very interesting subject, was that the Goodwin Sands were originally a ridge of chalk forming an inclined plane, showing a little deviation in the Gull Stream with the nearest shore of the Isle of Thanet; the several small shoals and patches, together with the Brake Sand, being similar ridges of chalk, and together creating the numerous eddies, which have been the means of clothing their summits, in some places, with flint boulders and shingle, and at others (like the Goodwins) with a clean, live sand of many miles in extent, without a particle of extraneous matter. These chalk ridges, being a continuance of the Thanet Cliffs, once formed the eastern side of the estuary of Richborough (the Portus Rutupinus of the Romans), and the channel of the Stour; the Southford land

and its hills forming the opposite shore, and the dip of these chalk downs beneath the Minster level constituting what is appropriately called the Sandwich Basin. Beneath the alluvial deposit in this basin, the lower chalk cliffs of Thanet dip suddenly down, and the soil is upwards of 100 feet deep at Minster. Here then, in some respects, are the features of the North Goodwin, which is a mound or hill of chalk, and dips into Trinity Bay, which may have possibly been a continuation of one of the branches of the extensive estuary before alluded to. Then there is the counterpart of the South Goodwin in the extensive sand hills between Sandwich and Deal; a sand of the same nature on the surface without any admixture of extraneous matter, and from the skirt of which a long, flat, fertile land stretches away to where the chalk again rises into the ridge of the hills forming the South Foreland.

In reference to this question, that the Goodwins were formerly an island, a very distinguished civil engineer, Mr. James Walker, in 1843, advanced the singular opinion that, "As the Goodwins appear to be a mass of clean sand deposited on a basin of chalk, if they were ever cultivated land they must have been, in the first place, originally reclaimed from the sea, and the extreme difficulty of doing this, either then or now, is to me a convincing argument against it. If the tidal current were prevented going over the surface of the Goodwins, it would pass much more rapidly, and with a scouring force upon the sides, which being now sand, would be swept away, and any banks that might be attempted would be undermined almost as quickly as formed."

That the Goodwins should have been, in the first instance, "originally reclaimed from the sea," and formed into the cultivated island referred to by the Romans, is certainly a most peculiar and most original theory. Because they are sand *now*, it does not necessarily follow that they were always so. They might well have been a cultivated island once, but, as they were submerged nearly eight hundred years ago, the sea has had ample time to wash away the earth and loam which once formed the surface, and to continually heap up the ever-increasing sand in its stead; for it should be remembered that the quantity of loam on the island was necessarily prescribed, whereas the amount of sand supplied by the sea is unlimited. There would therefore appear to be but little reason for accepting Mr. Walker's curious suggestion as to the reclaiming of the sands in the first instance, before the final destruction of the island in 1099.

With regard to the formation of the Goodwin Sands, Mr. Walker says: "I consider the Sands as the natural consequence of the peculiar formation of the place, and of the cross tidal currents upon it, just as any other sand may be formed. Between Dover and the French coast the channel is narrow, the set of the tide direct, and there is no sand, but the bottom is rough stone or chalk. Northward the channel widens and the currents are crossed; there is also a bay, or hollow, in the coast extending from the Sout'. to the North Foreland which, with the projection of the latter, may account for the peculiar formation of the Goodwins, and of the Margate Sands round the Foreland. I consider the loose sand of the Goodwins as an *exact*

balance of the currents upon it at the time, and that the different changes that take place in it would, if we could apply them, be found to be a very minute and fine measure of disturbing forces, namely, winds, floods, and tides, and with a body so easily moved as sand, this is sure to be the case."

From a statement made by Mr. Morris, in 1838, to the Geological Society, it appears that there was a subsidence of 21 feet in 340 paces between Ramsgate and Cliff End in Pegwell Bay, and that a waste of nearly 3 feet annually is supposed to go on in the present Ramsgate Cliffs. Half that waste during the last five centuries, would carry the Ramsgate boundary over the nearest shoal, called the Dyke, which is a mass of flint boulders, formed, doubtless, by the abrasion of these cliffs, and the scouring of the tide over the chalk bottom. The average height of the cliffs is 60 feet, their chalk base continuing out towards the North Goodwin deepens gradually into 60 feet; together 120 feet. Then the mound of the Goodwins rises above low-water mark and extends outwards about two miles, terminating precipitately, and two miles still further out will be found a depth of 210 feet of water. Supposing therefore the water drained away, the geological features would be, as exhibited by the results of Sir J. H. Pelly's cylinder experiment,* a chalk hill or mound 130 feet high, capped by a detritus of 80 feet of shelly shingle, terminating upwards in a surface of fine bright sand. The Brake Sand is another such chalk mound, which extends, in small ridges, to the Ramsgate Cliffs, the

* See *ante*, p. 4.

valley between it and the Goodwins forming the Gull Stream.

Looking at all these facts it is more than probable that the Sands were once, what the old writers always declare, an island, but submerged in one of the severe convulsions, or earthquakes, recorded in early history; a point which will be fully considered in the succeeding chapter.

The undoubted fact that ships have, again and again, at least to all appearance, been totally absorbed, and sunk bodily, in the Goodwins, has been repeatedly quoted to prove that they must be "quicksands." And yet this has been explained very clearly, and the reasons as to whether a wreck disappears or not are stated to depend very much on the particular part of the Sands on which the vessel strikes. If, for instance, on the outer edge of the eastern, or south-eastern side, where the Sands slope down at a steep angle into very deep water (over 300 feet), the violence of the waves would soon break the ship to pieces, and then everything would instantly roll, or be washed, down the steep descent into the depths below out of sight at once (as happened in the dreadful wreck of the 'British Queen'*), inviting the very natural conclusion that the wreck had been "absorbed in the quicksand." But should a vessel get on the inner, or more level, part of the sand, it is quite possible—if she escapes breaking up—that she will not be "absorbed" in the sands at all, but will ultimately be got off, as in the case of the 'Chaudière.'† The relics of the hull of a ship, wrecked nearly eighty years ago, were, within

* See Chap. VII., "Wrecks." † Ib.

the last few years, still lying in Trinity Bay, and the remains of the huge iron caisson, the wreck of Mr. Bush's unfortunate "Lighthouse-Beacon," * lay on the Sands, marked by a flag-pole, for a very long period.

It has also been argued that when the tide is ebbing the greater pressure of the water upon the sand is downwards, and it is more firm and solid than upon the flood, when the water is forcing its way upwards, tending to lift the sand, and to make the mass loose until it gets covered by water. When therefore a vessel runs aground upon it, if there be little or no wind, she sinks slightly into the sand and remains quietly (unless upon the edge of a slope) until the tide floats her off again. But if she grounds during a storm, the seas soon break up the parts exposed to their force, and with the strong run of the tide, quickly make a hollow in the sand for her hull, the sand thereupon naturally closing over the wreck when the upper works, which formed the obstruction to the free passage of the tide, are carried away; a result not only most natural, but most probable, and hence the idea that the ship has been actually "swallowed up" by the supposed quicksand.

When the Sands are covered by the tide, the water permeates through the mass, rendering the whole pulpy and treacherous, in which condition it shifts to such a degree as to render the most carefully drawn charts uncertain from year to year; but whilst the water is down, the various patches of sand above water, looking like little islands, are tolerably hard, and offer a foothold sufficiently firm for persons to land and walk

* See Chap. V., "Beacons and Buoys."

about upon, if they do not object to the chance of a thorough wetting.

At very low tide the Sands present a curious and indescribably dreary and saddening appearance, their dull brownish-grey flats extending a vast distance with nothing to relieve their terrible monotony but the pools and lakes here and there occasioned by the lower level of the sand, unless, haply, a small bit of a broken wreck may be perchance sticking up through the surface, all that remains, or will ever more be seen, of some fine ship which may have "got on the Sands," as the phrase runs, gone to pieces at once, and disappeared for ever beneath the treacherous waters.

The Rev. Mackenzie Walcott, in his interesting little work on the 'Coast of Kent,' says, with great truth: "At low tides a walk along these melancholy dunes, when the channel is bare of ships and presents only a boundless expanse, will inspire solemn thought, reverent awe, and silent devotion; the voiceless lips of the shells which the foot buries tell of mighty changes and centuries gone by. All is still as beneath the roof of a cathedral, and the breeze grows mellowed, softer, sadder, as it mingles with the fall of the breakers. No wonder that the sound of voices seems to murmur above that sonorous bass by a deep feeling where all is perfect solitude, ineradicable, eternal, in the human heart; just as the Arab hears the 'Al! Allah!' of armies, or the bells of a Christian church, which no man ever yet could find, in the wild wilderness of Zin!"

Visitors to the towns of Ramsgate, Deal, or Walmer, looking over the Downs on a fine warm summer's day,

when everything above and around is calm and beautiful, can hardly bring themselves to believe that the bright glittering sea which bounds the horizon covers a spot which for many miles is little more than one vast "Golgotha," the grave indeed of thousands of brave and gallant hearts, who have been hurried to their doom with a rapidity and certainty alike appalling.

The Rev. John Gilmore, in his deeply interesting work under the characteristic title of 'Storm Warriors,' * says with great truth, speaking of these fatal Sands, that "when the graves give up their dead few churchyards will render such an account as theirs, not only as to the number of the dead, but also that the Sands are a battlefield which entombs the brave and the strong, who go down quick to their grave, quick from the full tide of life and strength, from the eager, stern, deadly contest in which, to the last, all their strong energies are fully engaged!"

Nor does another reflection, perhaps, occur to us which is in itself probably as singular as it is unique, and that is the recollection of the enormous wealth which formed the cargoes of the thousands of ships of all nations which have been, during the last eight hundred years, engulfed in these treacherous Sands, and which probably lies buried there still,—

> "A thousand fearful wrecks,
> Wedges of gold, great anchors, heaps of pearl,
> Inestimable stores, unvalued jewels,
> All scattered on the bottom of the sea!"

Much of this has, of course, perished years ago; but

* 'Storm Warriors; or, Lifeboat Work on the Goodwin Sands.' by the Rev. John Gilmore, late Vicar of Holy Trinity, Ramsgate.

gold, silver, jewels, and metals are there still, and could they ever be recovered—a very doubtful possibility indeed—would represent property that would surprise a good many fortune-hunters of the present day even. Nor can this much excite our wonder when it is remembered that these Sands have been the scene of constant wrecks of craft of all sizes and all nations, voyaging northward and southward through the Straits of Dover for so many centuries, that is to say, from the period when the Goodwins first appear on the pages of history.

The northern extremity of the Sands is nearly opposite Ramsgate, the southern directly faces the village of Kingsdown, whilst the town of Deal lies nearly opposite the centre. The space for the passage of ships between the Sands and the shore forms a fine and safe anchorage, bearing the well-known name of the "Downs" (said to be derived from "Dunes"—sand-banks), with an average width of about six miles, the line of the Sands acting as an extensive natural breakwater, on the east, and thus proving their great utility in forming a sort of harbour of refuge with anchorage ground for hundreds of ships, so neatly described by Wordsworth: —

> "With ships the sea was sprinkled far and nigh
> Like stars in Heaven, and joyously it showed;
> Some laying fast at anchor in the road,
> Some veering up and down, one knew not why."

In the foregoing sketch the general appearance and geographical bearings of the Goodwins have been given; in the following chapter an attempt will be made to consider their history, both legendary and accredited.

CHAPTER II.

HISTORICAL.

The Sands originally an island—Coast-line much changed—Three islands mentioned by ancient writers—Now one only remaining—Earl Godwine's connection with the Sands—Hasted's careless statement—Isle of Lomea destroyed by earthquake or other natural convulsion—Estuary of Rutupium now dry land—Portus Rutupinus—Various ways of spelling this name—Regulbium—Northmuth or Wantsum—Testimony of old writers—Legendary stories—Earl Godwine's connection with Lomea—Neglect by the See of Canterbury—Sir Thomas More's commission—Latimer's Sermon—Historical statements—Fearful storms in 1014 and 1099—Early historical writers—Sir J. H. Pelly's experiment—Opinions on the origin of the Sands—The Trinity House—Cricket matches played on Sands—A cycling run—Burials in the Sands.

That the Goodwin Sands were commonly believed to have been, at a remote period of history, a low-lying and very fertile island, situated on the coast of Kent, the ample, if quaint, testimony of ancient and reliable authors leaves little room for doubt. The north-eastern formation of this coast must have possessed a widely different aspect when first visited by the invading Cæsar and his war galleys in the year 55 B.C., to the appearance it presents to modern eyes. Earthquakes, or other great convulsions of Nature, inundations, and the constant and never-failing—though

gradual—encroachments of the sea throughout the whole of this region,* have worked such remarkable changes, that a map of the original coast unaided by description would be very nearly unintelligible at the present day.

Some of the early writers, in describing this coast, distinctly mention three islands close to, or nearly opposite, the Roman Portus Rutupinus: one on the north, called "Tanatus" (Thanet) or "Teneth," from the fire beacon on its heights; one on the south called "Rutupiæ" or "Ruochini Insula" (Richborough); and one bearing south-east called "Infera Insula" (Lomea, or Low Island).

As the Isle of Thanet is nearly surrounded by high cliffs, and as Rutupiæ is now part of the mainland, it is evident that "Lomea," the island lying to the south-east, and occupying the exact position of the present Goodwin Sands, must have been, as stated by the old writers, none other than the sea-girt island said to have formed part of the vast possessions, if not the actual home, of the great English statesman and warrior, the famous Earl Godwine, the councillor and friend of Edward the Confessor, sometimes called the Earl of Kent, but spoken of by Freeman generally as the "Earl of the West Saxons." Godwine's immense possessions, according to Hasted, comprised 14 lordships in Kent, 44 in Sussex, 11 in Hants, 1 in Surrey, and 1 in Hereford; and possibly Lomea was one of the Kentish fourteen. He was also "Guardian of the Cinque Ports," and built the tower called after him in Dover Castle, as a return for the Manor of Goodnestone, conferred on him by Edward the Confessor.

* See Appendix No. 2.

It is quite certain that these Sands have always been believed, in some way, at least, to have been connected with Earl Godwine, which readily accounts for their name, although Hasted, the Kentish historian, naïvely dismisses this really interesting question in a few off-hand words. "As to their name," he says, "no one seems to know whence it arose, though some who contend for their existence in Earl Godwine's time, suppose them to have originated in some part of his fleet having been wrecked there; or that the Sands were perhaps discovered by some of them;" meaning, I presume by "them," by some of Godwine's ships. Hasted here seems to have mixed up together one or two of the ancient legendary stories connecting the Earl with the Sands, without giving himself the trouble to investigate or compare the plain and simple narratives of the old writers, otherwise he never could have made the cool statement, so wholly unsupported, that "no one seems to know" the origin of the name.

A careful study of the whole question in all its bearings, geographical, geological, and historical, will leave little doubt that the Sands were once, as recorded, the Island of Lomea, but submerged in one of the severe convulsions, or earthquakes, mentioned in Belgic as well as British history, and handed down by tradition, which will be fully noticed further on. It is quite certain that changes of a most extraordinary nature must have taken place at very remote periods, long prior to the date of the destruction of the island (A.D. 1099), otherwise how are we to account for the presence of gigantic specimens of teeth, tusks, bones of the mammoth and rhinoceros, which have been repeat-

edly found deep down in the Sands, and the submarine valleys adjacent? That these regions have been affected by earthquakes, or other powerful convulsions of some sort, is proved by the singular fact that in certain boring operations undertaken at Minster in Thanet—about three miles inland from the coast—oysters were discovered at the depth of twenty-four feet below the surface; and it is an historical fact, asserted by Tacitus and Antoninus, that oysters * were found in the levels of the estuary at Rutupium (Richborough), where Cæsar anchored his fleet, and these are now covered by nineteen feet of dry land. All this would point to sudden eruption by tempest or earthquake, rather than by general or gradual deposition.

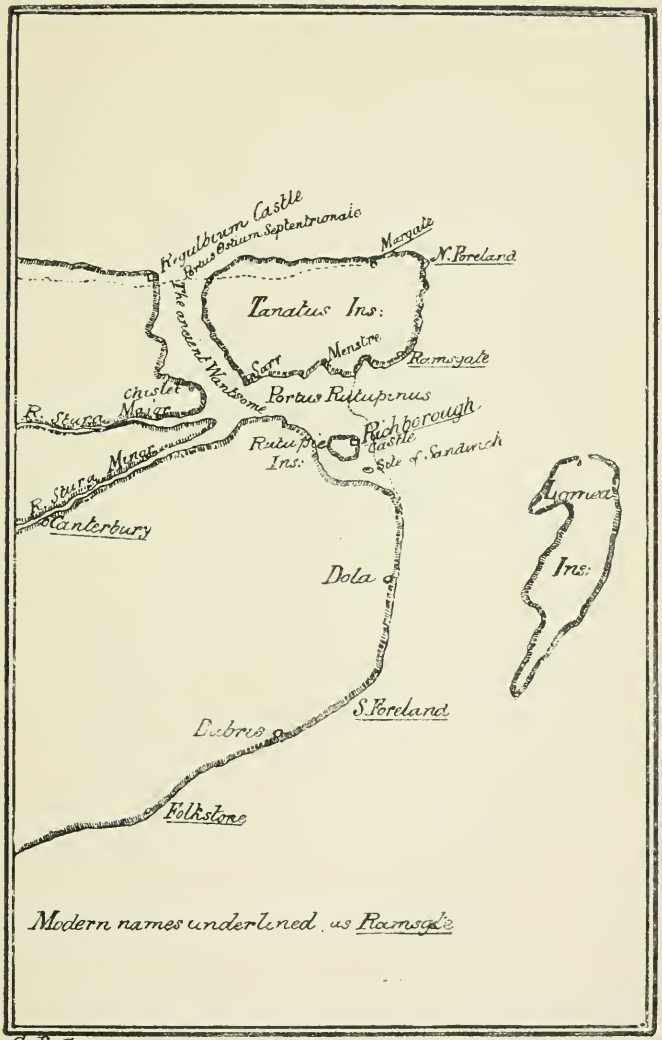
The Sketch Map on the opposite page, though perhaps not strictly geographically accurate, yet serves to exhibit the position of the three islands in the days of Roman Britain. A second Map is added for convenience of reference, showing the present coast with the ancient boundaries marked by a dotted line.

The *Portus Rutupinus* (Rhutupine, Rhutupis, Rutibi, Rutupia, Rutupium, Rutupensis, Reptacestir, or Ruppecester, as it is variously written†) was, under the Romans, a very important position, and formed the

* Oysters from Britain were generally esteemed as a great delicacy at the tables of wealthy Romans. Juvenal observes—

> "Circeis nata forent, an
> Lucrinum ad saxum Rutupinove edita fundo
> Ostrea, callebat primo deprendere morsu."

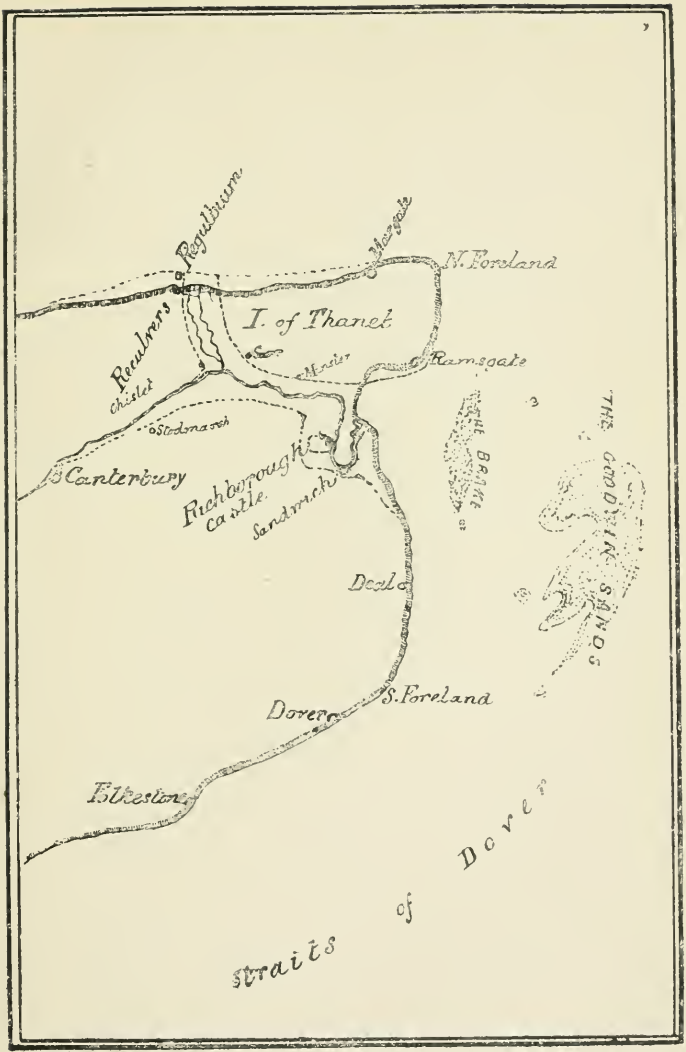
† Planché derives the name from *rutubari* and *rutuba*, Old Latin, signifying "perturbation of waters," as the river Stour, dividing into two branches, rushed round the Isle of Rutupia with much force into the sea on the other side of the island.



G.B.G.

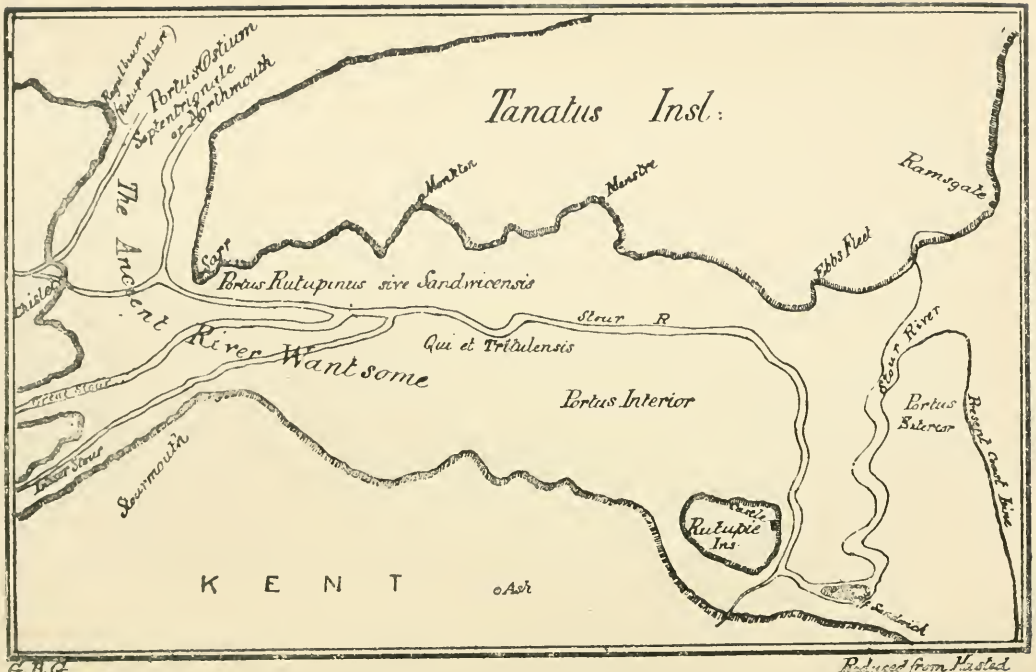
SKETCH MAP OF THE PORTUS RUTUPINUS AS IT PROBABLY APPEARED DURING THE ROMAN OCCUPATION.

The dotted line ..... shows the modern coast.



SKETCH MAP OF THE PRESENT COAST.

The dotted line ..... shows the ancient coast.


Tanatus Insl:
Portus Rutupinus sive Sandwicensis
Qui et Tritulensis
Portus Interior
Portus Lemanis
Portus Iccius
Rutupiæ Ins.
Ramsgate
Margate
Minster
Ebbs Fleet
Stour R
Stour River
Portus Iccius
Present Coast line
The Ancient River Wantsome
Sandwich
Sandwich
Stonar
Stonar
Stonar

chief entrance to that part of Britain, all ships sailing through the port and up the Wantsum, out by Northmuth, into the Thames at Regulbium (Reculvers), and so saving the rough heavy seas so often met with in rounding the North Foreland. This passage was defended by the castles of Regulbium at the north end, and Rutupium on the south-east.* Solinus, a Roman writer, speaks of the great importance of this latter place, and the vast size and enormous strength of the ruins of the castle, as seen at the present day, prove how greatly the Romans must have valued the place as a military position; and the Urbs Rutupium, the City of the Port, the foundations of which, it is said, can still be traced on the neighbouring land, was doubtless a station of great size and consequence.

Richard of Cirencester, bearing testimony to the extent and importance of this city, says "their primary station Rhutupis, which was colonised and became the metropolis, and where a haven was formed capable of containing the whole Roman fleet which commanded the North Sea. This city was of such celebrity that it gave the name of Rhutupine to the neighbouring shores; which Lucan

"Aut vaga quum Thetis Rhutupinaque littora fervent."

The Venerable Bede (A.D. 735) mentions the use and importance of this estuary, and even gives its width at 3 stadia, or 625 yards, and says that the city close by was called by the Saxons "Sand-Wick," the present Sandwich. Florence of Worcester states that Purkill came to Sand-Wick with his whole fleet of Danish ships,

* See Appendix No. 3.

and anchored in the port of Rutupium; and the Saxon Chronicle (A.D. 1052), and Henry of Huntingdon also relate that Harold sailed up this estuary with his fleet through "Northmuth" (Reculver) to London. Simeon of Durham (A.D. 864) describes Thanet as an island surrounded by the sea; and in 1303, the monks of St. Augustine, Canterbury, "claimed all the *sea-wreck* in the manors of Minster, Chislet, and Stodmarsh," places now in the valley lying between the island of Thanet and the mainland of Kent. John Twine, in his treatise 'De Rebus Albionicis,' which was published in 1590, laments over the submersion of Lomea, "Earl Godwine's once fertile land now called the Goodwin Sands," and over the annexation of Thanet to the mainland. Yet, he adds, although "Thanet has been changed from an isle into a peninsula, or Chersonesus, there are eight worthy men still living who have seen, not only the smallest boats, but larger barks, frequently pass and repass between that isle and our continent."

"Thanatos enim nostro ferè eno, ex insula facta est peninsulæ sive Chersonesus, superantibus adhuc octo fide dignis viris, qui non modo cymbas minutiores verumetiam grandiores naviculas onerariasque measse ac remeasse inter insulam et nostram continentum, frequente navigatione vidisse se aiunt."—*De Rebus Albionicis.*

Twine also states that the Wantsum was at that period about half a mile wide, and that a mooring place had once existed at Sarre, now a little inland village on the Stour; the truth of this is evidenced by the finding of ancient anchors, and the discovery of the remains of timber piers at that place.

The Portus Rutupinus, where the great Roman fleet of 82 war galleys and 18 transports was easily anchored, with its broad estuary leading to the Thames, has passed away, and is, together with the Isle of Rutupia, now a vast tract of flat, valuable, marshy land, 25,000 acres in extent, doubtless from the effect of some terrible convulsion by which the earth has been elevated, the sea in consequence thrown back. As this is before our eyes there is no disputing it, therefore we can the more easily believe that a similar—or possibly the very same—elementary disturbance caused the ultimate destruction of the Isle of Lomea.

The question, however, of the origin of the Goodwin Sands has given rise to much disputing and controversy, many writers holding different opinions on the subject. Dating from a period so very remote, it is no matter of surprise that much that is fanciful and legendary should be mixed up with the possible and the historical. It will, therefore, be both amusing and interesting to take a rapid glance at the first, before we consider the second.

Legendary Stories.

I. The fanciful legends connecting the Goodwin Sands, first with the estates of the celebrated Godwine, Earl of Kent, or Earl of the West Saxons, and of their destruction by the sea, as a just judgment upon him for his many crimes and his wicked life; and secondly, in some mysterious way, with Tenterden church steeple, are legends, and nothing but legends—romantic enough

in their way, perhaps, and each remarkable for a sort of stern retributive justice which we cannot help admiring prodigiously, especially the utter contempt exhibited for historical facts and chronological dates.

The first legend states that the Sands having been suddenly, and quite unexpectedly, overwhelmed by the sea, Earl Godwine, almost immediately afterwards, was returning up Channel at the head of his fleet —for a mighty sailor was Godwine—from some one or other of his many naval expeditions, and not having the advantage of an Admiralty chart, a floating light, or even a Trinity House buoy to warn him of his danger, ran foul of the new-made obstruction, and there perished miserably with the whole of his ships and men; and hence his well-known name was applied to the spot where he had met his death. This, however interesting, is certainly not in accordance with history as commonly received, the great Earl's death being always stated to have taken place suddenly, and under peculiar circumstances,* in the year 1053, whilst dining with King Edward the Confessor at Winchester, shortly after his reconciliation with that monarch, and consequently long before the submersion of the Island of Lomea by the sea, which event, history states, occurred in 1099.

II. The second legend, embodying the apparently impossible connection between the Goodwin Sands and Tenterden church steeple, has been explained in various different ways. One, in which the great Earl again appears, states that Godwine, in one of his many military expeditions, penetrated into the Weald

* See Appendix No. 4.

of Kent, and attacked and burnt the Palace of the "King of Kent," but being hard pressed, and in very great peril from a vastly superior force, whilst lying concealed in the woods, he made a vow to the Blessed Virgin that, should he return in safety to his island estate of Lomea, he would erect a steeple to the church at Tenterden in honour of the saints. He did escape the impending danger; but, being a careless, vacillating worshipper, with little or no trust in either saints or angels, he soon forgot his vow, now that the danger was past (a not uncommon failing in our own day), and wholly neglected to fulfil his promise, when the vengeance of Heaven was inflicted upon him and his sons in the total destruction of his favourite sea-girt domain, for which he had risked and promised so much! *

There is, however, another version of the same legend, although with a very opposite tendency. In this one it is stated that so anxious was the Earl to fulfil his sacred vow, and build the promised steeple, that he neglected the dams and sea walls on which the safety of the island depended, using the money and timber which ought to have been applied thereto for the purposes of the erection of Tenterden steeple; and the inevitable consequence of this was, that in the first great storm which followed, the lands fell an easy prey to the engulfing waters. But according to Sir Thomas More's "ancient witness of Sandwich, then nigh 100 years old"—as we shall see further on—there was no steeple at all at Tenterden Church until the middle of the sixteenth century!

* See Appendix No. 5.

III. The third legend is remarkable as exhibiting a fine lesson on financial and official dishonesty in high places, reminding the reader somewhat of the Welsh story of the total destruction, from the same cause, of the fertile plain of Gwalior, so happily told by the witty author of 'Headlong Hall' * in his clever satire 'The Fortunes of Elfin.' The Goodwin estates were always said to have been defended from the inroads of the sea by a strong sea wall, such as may still be seen on the left bank of the Thames, near its mouth, and round the Island of Foulness, and other islands of low level on the Essex coast. Now this sea wall, from the very nature of its position and uses, required the most watchful care and supervision; and it so happened that when these lands, which had belonged to Harold II., the son of Earl Godwine, were bestowed by William the Conqueror on the See of Canterbury, the ecclesiastical authorities displayed their crass ignorance of the commonest principles of Nature by withdrawing the funds, stone, and timber intended expressly for the maintenance of this important sea wall, or barrier, and misapplied them in the erection of Tenterden Church steeple, amiably supposing, like the Gwalior Commissioners, that if they left the embankments alone, they would doubtless "take care of themselves." The inevitable consequence of this culpable neglect was that the sea wall—exactly as in the Welsh story—fell into disrepair and gave way to the pressure it could no longer resist, and, the waves having the mastery, broke through, overwhelming and destroying the estates the wall had

* The late J. B. Peacock, Esq.

been originally designed to protect. The matter was, no doubt, carefully kept secret by the Chapter of Canterbury as long as possible, for there was no dread, in those degenerate days, of the ready pen of a "Whiston" to publish to an admiring and applauding world the shortcomings of the reverend delinquents, or to tell awkward stories about "Cathedral trusts and their fulfilment;" but the only return the Chapter received for their rapacity and mismanagement was the total loss of what might probably have proved a most valuable and lucrative property—that is, supposing the story to be true.

Old Fuller, in his 'Worthies,' however, lays the fault, not on the See of Canterbury, but on the Bishop of Rochester; though what *he* could possibly have had to do with the finances of estates belonging solely to the Archiepiscopal See is, at first sight, somewhat difficult to understand. Fuller says: "Time out of mind money was constantly collected out of this country to fence the east banks thereof against the irruption of the sea, and such sums were deposited in the hands of the Bishop of Rochester; but, because the sea had been quiet for many years, without any encroaching, the Bishop committed this money to the building of a steeple, *and endowing a church* at Tenterden. By this diversion of the collection for the maintenance of the banks, the sea afterwards brake in upon Goodwin's Sands."

Now this statement is neither clear nor logical, because, if "Goodwin's Sands" existed already—as sands in the sea—how could the sea "brake in" upon them, and what was it to "brake in" through? It is

possible, however, that Fuller means us to understand that the Isle of Lomea was itself one of the "east banks of Kent" which was "fenced" at the public expense, but which was totally lost in consequence of this "fencing" having been so reprehensibly neglected.

Besides Fuller two other, and, on such a subject, certainly rather unexpected authorities come upon the scene and add their testimony. These are no less than Sir Thomas More and Hugh Latimer, Bishop of Worcester. In the last of a series of sermons, said to have been preached by him before King Edward VI., the good Bishop tells the following quaint story; the subject and language, to say the least, would seem to be most peculiar to introduce into a "sermon," until we discover the real reason for so doing, which was, by using the story as a sort of parable, to thereby inculcate a lesson against hasty and utterly illogical conclusions, as will be seen by the closing words of the discourse—the Bishop, apparently, having been improperly accused of assisting the cause of rebellion by his eloquent preaching.

"Maister More was once sent with commission into Kent, to try out, if it might be, what was the cause of Goodwin's Sands, and the shelf which stopped up Sandwich Haven.* Thither cometh Maister More, and calleth all the country before him, such as were thought to be men of experience, and men that could of likelihood best satisfy him of the matter concerning the stopping of Sandwich Haven. Among the rest cometh in before him an old man with a white head, and one that was thought to be little less than 100 years old.

* See Appendix No. 6.

When Mr. More saw this aged man he thought it expedient to hear him say his mind on this matter, for, being an old man, it was likely he knew most in that presence or company. So Mr. More called this old aged man unto him and said:

"'Father, tell me if you can, what is the cause of the great arising of the sands and shelves here about this Haven, which stop it up so that no ship can arrive here? You are the oldest man I can espy in all the company, so if any man can tell the cause of it, you of all likelihood can say most to it, or at leastwise more than any man here assembled.'

"'Yea, forsooth, good Mr. More,' quoth the old man, 'for I am well-nigh a hundred years old, and no man here in this company anything near my age.'

"'Well, then,' quoth Mr. More, 'how say you of this matter? What think you to be the cause of these shelves and sands which stop up Sandwich Haven?'

"'Forsooth, sir,' quoth he, 'I am an old man; I think that Tenterden Steeple is the cause of Goodwin's Sands. For I am an old man, sir, and I may remember the building of Tenterden Steeple, and I may remember when there was no steeple at all there. And before that Tenterden Steeple was building there was no manner of talking of any flats or sands that stopped up the Haven; and therefore I think that Tenterden Steeple is the cause of the decay and the destroying of Sandwich Haven.' And even so," argued the Bishop, "is my preaching of God's Worde the cause of rebellion, as much as Tenterden Steeple is a cause that Sandwich Haven is decayed."

To the very evident, most intelligent, and most con-

clusive arguments of this "olde aged" witness, Maister More appears to have offered neither reply nor comment —at least that we hear of—and the very startling conclusion which the interesting and sagacious old man had arrived at was possibly altogether too much for the learning of "good Maister More," and he therefore wisely refrained from argument or dispute, where both would have been alike useless and thrown away in dealing with the ignorance and prejudices of extreme old age.

Notwithstanding, however, the very eminent names of Latimer, More, and Fuller, the awkward, but undoubted, fact cannot be overlooked that the Sands, as most reliable authors agree, date from the year 1099, upwards of 400 years *before* Sir Thomas More's interesting and clear-headed "old man," who was "thought to be nigh a hundred years old," and who conveniently "remembers the building of Tenterden Steeple," appears upon the scene at all. The story therefore, to say nothing of the utter absurdity and childish stupidity of the whole argument, proves nothing, and falls to the ground.

Historical Statements.

But all this, of course, is mere legendary lore, and although amusing and interesting enough in its way, helps us but little in our researches as to the true origin of these remarkable sand-banks. The most learned opinions on the subject are but opinions and conjectures after all, for of real truth we know but little, and that little, which we suppose and hope

to be truth, is only derived from the old chroniclers, whose accounts are sometimes both contradictory and inconsistent.

Captain Kenneth B. Martin, in his 'Oral Traditions of the Cinque Ports,' quoting from the Belgian Chronicle, refers to two fearful storms, one of which occurred in 1014, in the reign of Edward the Confessor, and was accompanied by a terrible earthquake, and the other, and by far the more severe of the two, in 1099, in the time of William II. Each of these so-called "storms" was followed by a most appalling inundation of the sea, occasioning frightful loss of life, land, and all kinds of property. The Saxon Chronicle, speaking of the first of these, in 1014, says, "This year, on the eve of St. Michael's Day, came the great sea-flood which spread wide over the land, and ran up so far as it never did before, overwhelming many towns, and an innumerable multitude of people." By this same inundation a group of islands in the German Ocean was entirely swallowed up,* as well as the bank on the Kentish coast now known as the "Ridge," but formerly called the "Ripa" by the Romans, the "Riprapp" by ourselves, and "Le Colbart" by the French, from the Celtic words "Col" a height, and "Ber" or "Bart," water, *i.e.* the "ridge in the water."

The Saxon Chronicle also says, of the second inundation, that "in the year 1099, on the festival of St. Martin, the sea-flood sprang up such a height, and did so much harm as no man remembered it ever did before, and this was the first day of the new moon." Captain Martin adds that, "It was, doubtless, this storm which

* Now the shoals called the "Broad Fourteens."

completed the ruin of the Goodwin Lands and Estates, and entirely submerged what remained of the low fertile islands in the German Ocean, leaving a solitary rock, now the Island of Heligoland, surrounded by the destructive element. It is quite possible that the lands might have been rendered untenable by the first inundation of 1014, and totally destroyed by the second in 1099."

Although no distinct reference appears to have been made, directly by name, to the destruction of the Goodwin Estates, or the Isle of Lomea, by the sea, yet there can be but little doubt of the truth of the many statements as to the fact of great and fearful inundations having taken place at the periods named, causing the total loss of towns, villages, lands, and lives, to an extent as appalling as it was unprecedented. Florence of Worcester, Henry of Huntingdon, and Matthew of Westminster, old and trustworthy chroniclers, all unite in speaking of these inundations as calamities of the most terrible description:

"Villas quamplurimas innumerabilemque populi multitudinem submersit."

And again:

"Mare ascendens solito superius villas totas cum populo submersit."

These statements are again confirmed by good old William Lambard, who wrote his 'Perambulation of Kent' about the year 1570. He says that many writers have agreed that about the end of the reign of William II. (*circa* 1098–99) "there was a sudden and mighty inundation of the sea, by which a great part of

Flanders was utterly drenched and lost, whilst at the same time various places both in England and Scotland also suffered most dreadfully, but especially the Estates of Godwyn, Earl of Kent, which were first covered with a fine light sand, and afterwards overwhelmed by the waves and so destroyed;" and he concludes his account with the quaint, but very characteristic, remark that the estate "not only remaineth covered by the waters ever since, but is become withal a most dreadful gulf and ship-swallower" (*navium gurges et vorago*), a painful fact that also unfortunately remaineth unto this present day in all its terrible truthfulness. Here, then, we find mention made not only of the great inundation, which caused such fearful calamity and loss, but a distinct reference, by name, to the "Estates of Godwyn, Earl of Kent," as having been overwhelmed and lost at the same time. Lambard goes on to say that the sands were "sometimes passable by foote and sometimes laide under water, in dubio pelagi terræque, and so, as it may be saide, either sea or lande, or neither or both." He then adds: "I sticke not to accept this for assumed truth, considering either the auctorite of the writer himselfe (that is, Hector Boëthius) the Scottish historian being a diligent and learned man, or the circumstances of the thinge that he hath left written, being in itself both reasonable and likely."

Speed, in the 'History of the World,' 1636, evidently without troubling himself to investigate historical facts, falls quietly into the old legend, and says that "Goodwin's sands were sunk for the sins of Earl Godwin and his sons!" adding quaintly, "they are, to this day, greatly to be feared of all navigators."

Giraldus, in his 'Itinerary of Wales,' also distinctly, though shortly, states that these lands were destroyed by the sea.

Camden, however, in his 'Britannia,' giving little or no heed to the legendary tales, also testifies to these sands having been once an island; and Irvine also bears testimony to its fruitful condition, and to its having good pastures, and then adds this curious piece of information: "In an unusual storm of wind and rain and of a very high sea the Isle *sunk down* (?) and was covered with heaps of sand." In Baker's 'Chronicle of the Kings of England' it is also affirmed that in the reign of William Rufus "the lands in Kent belonging to Earl Godwin were, by the breaking in of the sea, covered with sand, and called Godwin's Sands unto this day." But the worthy old chronicler is, of course, entirely mistaken in speaking of these lands as belonging to Earl Godwin in the reign of William II., for at the period of their destruction, in 1099, they were held by the See of Canterbury, to which they had been given by William the Conqueror, after the death of Harold II., the son of Godwine, and the former rightful owner.*

Another remarkable statement made by some of the old writers refers to the "fruitful" Island of Lomea and its rich pastures: a statement that we find some difficulty in reconciling with the facts brought out by the interesting and conclusive experiment conducted by Sir J. H. Pelly under the orders of the Trinity House, in the year 1849,† from which it appeared that the space intervening between the present surface of the

* See *ante*, p. 24. † See Chap. I., p. 4.

sands down to the pure chalk—a depth of no less than 78 feet—was entirely occupied by, and made up of, different kinds of sands, sea-shells, stones, flints, etc. If, therefore, this "Island" is found to consist of nothing but a huge mound of chalk, with a vast superstructure of sand and shells 78 feet thick, it may be naturally asked how can it possibly have ever been either "fertile" or "fruitful," or have maintained rich pastures, as so often has been alleged? And further, even supposing that it ever really was, as stated, an "island of rich and fruitful loam," how is it that something of that nature was not discovered, and brought to light, by the Trinity House experiment, instead of the sand and sea-shells which were found occupying the entire space from the surface down to the solid chalk. But it is, however, really possible that the original loamy soil may have been, by the ceaseless action of the sea for many centuries, entirely washed away, and the sand ultimately deposited in its place. If this theory be accepted, it will readily reconcile these apparently adverse statements which now perhaps appear at least contradictory, if not altogether difficult of belief.

Looking carefully at these facts—the result of modern ingenuity scientifically applied—our faith is somewhat shaken in the "fertile island" theory, and we must rather incline to the opinion, frequently advanced by Mr. Somner and other learned writers and antiquaries, that the Goodwin Sands were never anything but sand-banks; and that instead of having been occasioned by a great irruption of the sea, they were rather caused by the sea leaving them at the time of the great inundations already referred to, which submerged so large

a part of Flanders and the Low Countries, by which this portion of the Channel, which before had sufficient depth of water to be at all times as navigable here as elsewhere, became a large tract of land or sand-bank, dry at low water, but barely covered with waves at other times, and proving highly dangerous to mariners, as the countless shipwrecks on it, for centuries past, have sufficiently attested. Another writer, inclining to the same opinion, adds that possibly these sands were originally a sort of shelf or bank, elevated higher than the surrounding level, but still covered by a depth of water sufficient to carry any vessels over it without danger, until, at the great inundations, so much of the water between the two shores having flowed away beyond the ordinary bounds, and gained so much more room over other lands—the sea being supposed to lose in one place what it gains in another; an opinion, however, strongly opposed by Captain Martin—that this shelf or bank of land, for want of the sufficiency of water that before covered it, became so near the surface that, at low tide, it would appear as dry land, and admit of persons even landing upon it, and yet just enough covered at high water to make it both dangerous and destructive to shipping, not only as an obstacle to progress in this narrow strait, but, from its peculiar spongy, soft, yet tenacious nature, and its engulfing properties, as a treacherous quicksand as well.

The above opinion, that the sea loses in one place what it gains in another, is strongly opposed by Captain Martin, who combats the supposition that the sea receded from the Goodwin Sands, stating that he

considers it "impossible that the sea could have gradually retired from a navigable channel (the Straits), converted the anchorage of navies (the Portus Rutupinus) into smiling cornfields and pastures, and, at the *same time* to have covered for ever a stone-built fortress (Regulbium) existing in the immediate vicinity, or buried the greater part of a town (Margate Sands), only a very few miles distant, in the bosom of the deep;" and he adds that the supposition that the sea receded from our coasts because it encroached on Flanders is, in his opinion, utterly absurd, and not entitled to belief.

Although Captain Martin is opposed to the theory that the sea loses in one place what it gains in another, yet it is nevertheless an opinion entertained very generally by learned and scientific men who have given any attention to this most interesting subject.

Humboldt, in the 'Cosmos,' admits that "the boundaries of sea and land, of fluids and solids, are thus variously and frequently changed, and plains have undergone various oscillatory movements, being alternately elevated and depressed. Thus, in following phenomena in their mutual dependencies, we are led to the consideration of the forces acting in the interior of the earth, to those which cause eruptions on its surface."

Pennant also, in his 'Journey to the Isle of Wight,' gives it as his opinion that the "Godwin Sands" (as he spells it) owe their origin to "the great inundation which overflowed part of Holland in the year 1099, so that the water being carried from this part of the sea rendered it so shallow that places which might have

been safely passed over before now became full of dangerous shoals." The good old chronicler, who probably wrote about the year 1770, then makes the following amazing statement:—"The sands were two submarine hills which escaped notice in ancient times [why so?] by reason of their depth. The drainage due to the inundation exposed their heads at ebbtide, and they consequently became most dangerous to mariners." The extract is inserted to show the opposite opinions which have been offered by various writers of different capacities, and at different periods, in reference to this interesting question.

As this chapter is devoted to the history of the Goodwins, it would hardly be complete without a passing reference to the Trinity House, as the Brethren have the entire oversight and management of all lights, light-ships, buoys, and beacons on the English and Welsh coasts, including, of course, the Goodwin Sands. I therefore make no apology for inserting the following short sketch of the origin and progress of the most ancient and honourable Corporation of the Trinity House.

The Trinity House was founded by King Henry VIII., who is said to have devoted both time and attention to the subject of English navigation. Originally the Corporation was simply a religious Guild, and the only duty required of the Brethren was to pray for the souls of sailors drowned at sea, and for the lives of those who might be on the verge of shipwreck or otherwise, or struggling in extreme peril of winds and waves. On the 20th of March, 1514 (6 Henry VIII.), the king granted the first charter giving the Corporation the title of the "Guild or Brotherhood

of the Holy and Undivided Trinity of Deptford-le-Strand, and St. Clement" (the patron of sailors).

This charter commences with the remarkable declaration, "on account of the sincere and entire love and likewise devotion which we bear and have towards the most glorious and undividable Trinity, and also St Clement the Confessor," his Majesty grants license for the establishment of a Guild or perpetual fraternity to "certain individuals and their associates, as well men as women." This charter was confirmed early in Elizabeth's reign, and again in her 36th year, when the religious duties of the Guild had nearly declined, and for the first time those powers were granted which have subsequently led to the authority of the Trinity Board over all lighthouses and beacons. In this year, the Lord High Admiral of England formally relinquished all claim, on his part and on the part of the crown, to the rights, privileges, and emoluments for "buoyage, ballastage, and beaconage," which were thenceforth assigned to the Trinity Brotherhood. James II., in confirming this charter, extended the powers of the Fraternity, and organized the Board very much as it exists at present. His first patent appoints "Our trusty and well-beloved Samuel Pepys, Esquire,* secretary to our admiralty of England, to be first and present master of the said Guild, Fraternity, or Brotherhood." General control was given over British ships and shipping interests, and the erection of lighthouses and beacons consequently became part of the business of the Board; although the maintenance of lights was still permitted, under the king's license, by private

* The author of the well-known 'Diary.'

speculators, who, it is said, often realised large fortunes from the excessive tolls which they levied on all vessels passing within range of their lights. This questionable system, as might be supposed, led to great scandals and much corruption until it was at length very properly put an end to. James's charter was again enrolled and confirmed by George II., and by an Act passed in the 6 & 7 William IV. the interests of the crown were made over to the "Brethren of the Trinity House," greatly enlarging their authority and empowering them to buy up all private lights, and thus, by assuming the direction and responsibility of the whole, establish a uniform system in regard to lights, buoys, and beacons throughout England and Wales, the powers of the Corporation not extending to Ireland or Scotland,* and these powers are continued to the present day; the only exemptions to the rule of the Trinity Board being the instances of small harbour lights, which remain under the control of the harbour trustees.

Cricket Matches played on the Sands.

Most people will be inclined to think that about the very last place to be selected for the enjoyment of a game at cricket would be the Goodwin Sands. Yet it is a fact that several matches have been played there at different periods, each by a party of genuine enthusiasts, who seemed determined to try their favourite game—evidently for the singularity and the "fun of

* In Ireland the lights are managed by the Ballast Board of Dublin, and in Scotland by the Commissioners of Northern Lights.

the thing"—on the most extraordinary, and apparently impossible spot they could select. Nothing daunted by the terrors of tides, waves, or quicksands, the party of players in the first match proceeded to the Sands, some time in the summer of 1824, under the direction of Captain Kennet B. Martin, then Harbour Master at Ramsgate, a gentleman who knew the Goodwins perhaps better than most people.

Captain Martin records that the game was well played, all the proper formalities being strictly observed. The "fielding" was, at times, a little awkward, from the necessity of running over wet and yielding sand, and not unfrequently through a pool or gully, knee-deep in water, when the ball had been fairly well hit; but this was, of course, cheerfully taken as all part of "the fun," and the whole affair was thoroughly enjoyed by all engaged in it. When the game was over, corks were drawn, and the health of his gracious Majesty King George IV. was cordially drank with three hearty cheers, after which the party returned to Ramsgate, much pleased with their visit to this most original of cricket grounds.

A second match, which nearly came to a most disastrous termination, is recorded to have been played about the year 1839 or '40 by a party of young men from Deal, who started for the Sands one bright, calm summer's day, in a small boat in charge of an old and experienced Dealman. They landed near the Swatch and soon settled in right earnest to their game, which seemed to be keenly enjoyed by all present. Then followed the inevitable "hamper," with the eatables and drinkables, which were quite as much relished as

the play had been; indeed, so much so that no one observed the rising clouds and the freshening breeze but the careful old Dealman, whose experienced eye plainly told him that a change, decidedly not for the better, was coming up in the weather, and that the boat, which had brought them out in perfect safety with smooth water and light breezes, was wholly unfit to carry so large a party over rough water and in the face of a gale of wind. He therefore urged instant departure before matters got worse; but the attractions of either the game, or, haply, the hamper, were so strong that much foolish delay was permitted, and much most precious time lost, and when at last the whole party did get off, they found the sea so high that they were in immediate danger of being swamped before they had proceeded half a mile from the shore. This so terrified them that they at once returned to the Sands, hoping to be ultimately taken off by some passing vessel or boat—a desperate and risky expedient at best.* It is impossible to say how this might have ended, as the gale was increasing and the tide rapidly rising; but, fortunately for the cricketers, their friends ashore, with praiseworthy sagacity, had marked the approaching bad weather, and knowing that the party had only a small boat, quite unfit to battle with rough water, these generous friends had immediately sent out a large "hovelling" lugger, which arrived at the Sands, as the saying goes, in the very "nick of time," took the whole party on board, and brought them safe ashore; and let us hope that, if they ever went cricket-

* For an account of a melancholy loss of life under somewhat similar circumstances, see Appendix No. 19.

ing on the Goodwins again, they would not turn a deaf ear to the wise warnings of intelligent experience, especially with such a cheering prospect before them as a heavy gale, a rising tide, a useless boat, and a speedy and certain death!

The third match was indulged in by two elevens from Margate in August, 1844, and was played very near the spot occupied by Captain Bullock's Beacon. The game, and doubtless the accompanying "hamper," were greatly enjoyed by the party, who returned to *terra firma* highly pleased with, and none the worse for, their pleasant trip to this singular cricket-ground.

The fourth match was played on the 10th of August, 1854, by a party under the direction of Mr. Mort Thompson and Mr. Hammond of Walmer. Captain Pearson and a picked crew of the 'Spartan,' one of the finest luggers on Deal beach, were invited for the occasion. The day was beautifully calm, and the players were safely landed about 5 P.M. They consisted of twenty-four persons, all told. After a long and careful search a spot was at length found sufficiently high and dry for the purpose, when the wickets were at once pitched, and the game began, and was continued with uncommon spirit and gusto until sunset, the winners making 57 runs. The ground was intersected in every direction by narrow and deep gullies, into which it was almost dangerous to step, as well by numerous small pools of water. But, nothing daunted by these apparent obstacles, the "fielding" was capitally managed, although, as in one of the former matches, thorough wettings seemed to be the order of the game, when the course of the ball had to be closely and quickly followed

The evening was very fine, and the return voyage, by bright moonlight, was much enjoyed.

These are perhaps the only occasions on record where genuine enjoyment, together with fun, frolic, and laughter, have been got out of the dreaded and terrible Goodwin Sands, and probably the only instances of a game at cricket having been played on a place that is in itself, in fact, little more than a gigantic grave, not only of thousands of brave men and "stately ships," but of millions of lost treasure as well—a spot indeed that can never be viewed, or even thought of, without the saddest associations and reflections crowding the mind in regard to this most melancholy and desolate region.

Cycling on the Sands.

If the Goodwins were an unlikely place for playing a game of cricket, we should have thought, from the soft sloppy nature of the sand, the inequalities of its surface, and its constantly recurring pools of water, that it would have been totally unfitted for running a bicycle, which is supposed to require a hard and level road for its operations. Nevertheless, three enthusiastic cyclists from London were evidently of a different opinion; and accordingly they embarked at Deal on the 31st of August, 1887, for the Goodwins, and on reaching the sands they had, in order to effect a landing, to wade knee-deep in water, carrying their bicycles on their backs. It was found necessary, on starting for this extraordinary run, to keep close to the edge of the water, as the wheels always sank in the sand on going more than 20 yards away from the

margin. After some trouble, and many dismounts, on account of the depth of the water in some places, a favourable spot was found, and a mile run was indulged in, one rider doing the distance in 3 minutes 30 seconds. The party then visited what remains of one or two wrecks still left on the sands; after which, as time was creeping on, a signal was made to go aboard, so they reshipped their bicycles, and returned to Deal in perfect safety, having greatly enjoyed their very singular and original run, which they will have the satisfaction of remembering was the first of the kind ever attempted on such an unlikely place as the Goodwin Sands!

Burials in the Sands.

Of all the extraordinary places in this world to fix upon for burial, the Goodwin Sands are perhaps the most amazing; and yet there are two cases on record where persons have, by their own express directions, been interred in the sands. One of these was a gentleman named Granville, the brother-in-law of Evelyn; and most readers of his famous 'Diary' will probably remember the circumstance. He says:—

"*April 12th*, 1705.—My brother-in-law Granville departed this life this morning, after a long languishing illness, leaving a son by my sister, and two granddaughters. Our relation and friendship had been long and great. He was a man of excellent partes. He died in the 84th year of his age, and will'd his body to be wrapp'd in leade, and carried downe to Greenwich, put on board a ship, and buried in sea betweene Dover

and Calais, on the Goodwin Sands, which was done on the Tuesday or Wednesday after. This occasioned much discourse, he having had no relation at all to the sea."

This, to say the least, is certainly a most singular proceeding. For a man "having no relation at all to the sea" to desire so strange and incomprehensible a place of sepulture as the Goodwin Sands, seems utterly unaccountable, and indeed without any apparent reason; the only possible explanation perhaps may be found in the one word, "eccentricity."

The second case is given merely on the authority of a newspaper called the *London Evening Post*. In this paper, under date May 16, 1751, the following somewhat loose statement is made:—

"We have an account from Hambourg that on the 16th April last, about six leagues off the North Foreland, Captain Wyrck Pietersen, commander of the ship called the 'Johannes,' *took up a coffin* made in the English manner, and with the following inscription upon a silver plate, 'Mr. Francis Humphrey Merrydith, died 25 March 1751, aged 51,' which coffin the said captain carried to Hambourg, and then opened it, in which was enclosed a leaden one, and the body of an elderly man embalmed and dressed in fine linen. This is the corpse that was buried in the Goodwin Sands a few weeks ago, according to the Will of the deceased."

Thus much for the extract from the *London Evening Post*. But the writer quite omits to tell his readers how it was that Captain Pietersen "took up the coffin." Was he dragging a trawl net after

him? Or did his anchor foul the coffin? It would also be rather instructive to know what he ultimately did with this coffin, after having so improperly and unscrupulously presumed to open it. It is a disagreeable and unsatisfactory story at best.

CHAPTER III.

THE DOWNS.

Origin of the name—Dimensions—The Sands a breakwater—Formerly a rendezvous for the Royal fleets—Old Naval Yard and Naval Hospital at Deal—Earthquakes and waterspouts—Great storms—The Downs a general battle-ground—Cæsar's fleet—The Vykings—The first regular naval engagement between England and France—Various others—Sandwich sacked and burnt twice—Earl of Warwick—Perkin Warbeck's fleet—Sir Andrew Barton—Immense fleet of Henry VIII.—Fleet of Charles V.—Life saved by a Deal boat in 1563—Pirates and piracy in the Downs—Lord William Somerset robbed—Reprisals—The "Invincible Armada"—Its final defeat in the Downs—Prince Charles Edward's attack on Deal—Van Tromp—Blake—Severe engagement in the Downs—French and English fleets combined—A "scare"—Commodore Wylde's defeat—The ship 'Victory'—Review of Deal luggers in 1842—Various landings—Defences of the Downs—Walmer, Deal and Sandown Castles—Colonel Hutchinson—Armed luggers—Volunteers, naval and military—Harbours of refuge—Various schemes—Bush, Condy and others—Antiquities discovered in the Downs—Proverbs and sayings.

As the Goodwin Sands are so intimately connected with the far-famed "Downs," no memorials of the former would be complete without a full account of the latter, including a sketch of most of the celebrated or remarkable events of which these historical waters have been the theatre.

The word "Downs" is derived from the Saxon "aduna," or "dunes," protecting banks or places of shelter, and they comprise that part of the Channel which lies between the Goodwins and the shore. They are in length and breadth about 6 or 7 miles each way, with a depth of from 8 to 12 fathoms. On the west and north-west the anchorage is sheltered by the Kentish coast; on the north-east and south-east, by the Goodwins. The extreme north end is known as the "Small Downs," and lies inside the remarkable bank called the "Brake." (See Chart facing page 1.)

It will probably surprise many to learn for the first time that there would be no safe anchorage in the Downs at all but for the neighbouring Goodwin Sands, and, however incredible it may appear at first sight, the statement is yet nevertheless perfectly true that the terrible Goodwins—the shoals of all others on the British Coast the most dreaded by navigators—are most eminently useful in their own particular way, although the reader may, likely enough, ask how, or in what manner can such a dangerous sand-bank be of the smallest possible use? It is so, however. But for this sand-bank, extending ten miles nearly parallel with the coast, leaving an open channel of seven miles, there would be no "Downs" in which ships can lie in perfect safety whilst contrary winds or storms prevail; the Sands, in fact, forming a sort of natural and very extensive breakwater, and giving to the Downs almost the advantage of a harbour of refuge, with comparatively smooth water and good anchorage ground.

At low water the Sands form a regular barrier whilst easterly winds prevail, and even at high tides the water

is too shallow to admit of great seas passing over this barrier without being much broken up and dispersed—especially in very stormy weather—before getting into the Downs. It is only southerly winds that are troublesome to shipping anchored here, the danger being when the tide turns north, for then the combined force of wind and tide occasion a double strain on both anchor and cable, which only too often ends in the loss of both. The subsequent recovering of such lost anchors and cables by dragging or "sweeping," as it is sometimes locally called, forms an important salvage job eagerly sought for by the East Kent "hovellers." *

Thus is established the curious and contradictory fact that the Downs owe their existence, and their utility, wholly and solely to the presence of the dangerous Goodwin Sands, forming, as they do, on the eastern side a natural breakwater.

From the earliest periods of history the Downs appear to have always been a regular rendezvous for ships of the Navy; and more especially during the prevalence of European wars "His Majesty's Fleets" were continually stationed, for long periods together, in these favourite waters, so often referred to in Dibdin's, and other, sea songs of former days:—

"All in the Downs the fleet lay moored."

"All over the Downs in the 'Nancy,'
My jib how she slapped through the breeze."

"No braver deeds than ever turned the fate of kings or crowns,
And done for England's glory by her boatmen of the Downs."

Not only were the Downs generally found a safe harbour of refuge for the Royal Fleets, but, being

* See Appendix No. 7.

situated in the confined straight between France and England, they afforded a convenient point for observation, for no vessels could proceed from north to south, or *vice versâ*, without necessarily passing either through this narrow channel, or on the other side (or back) of the Goodwins. From a strategical point of view, therefore, the Downs, rendered partially safe by the protecting Sands as a natural breakwater, must have been, for many reasons, invaluable in war time, when electric telegraphs and steamships were alike unknown, but whilst Britain, with her "wooden walls," was still mistress of the seas.

For the purpose of keeping the fleets fully supplied with all necessary stores whilst anchored in the Downs, a large space of ground, seven acres in extent, lying to the south of the town of Deal, had been occupied as a "Naval Yard," and known by that name since the days of Elizabeth. A high tower was erected here in 1793 for telegraphic purposes, repeating at Betshanger, by which orders could be communicated to the Admiralty at any hour of the day; and a commodious hospital for the use of the crews of the fleets was also built on the high road close by. But the Downs, having long ceased to be a rendezvous for the royal ships, the old "Naval Yard" was in 1864 sold by the Admiralty for £13,200 as a building site, and it is at present partly occupied by private houses. The hospital has been transferred to the Royal Marines, and the Telegraph Tower is now used as a "Time Ball" station.

Fleets of merchants' ships, to the number of many hundreds, may frequently be seen wind-bound, quietly

riding at anchor in the Downs,* whilst the breakers were rolling their white crests heavily on the Sands from the outside—the east—and there spending their force in furious, though harmless grandeur, so far as the sheltered ships were concerned, which are in this way thoroughly protected; for this dangerous sandbank, this "ship swallower," this terror of mariners, here acting in its capacity as a *breakwater*, becomes a real and most useful friend to all wind-bound ships anchored within the sheltered area of the Downs.

As earthquakes and waterspouts in our latitudes are such singularly rare occurrences, it is not altogether surprising that so much notice was taken of those phenomena which, we are told, actually appeared in the Downs and neighbourhood more than once; but in reading the stories of them, especially as related by the older writers, we cannot help feeling that there must have been a great deal of exaggeration indulged in, and the accounts should therefore be received *cum grano salis*. We are gravely informed by an old author, that "a most fierce and terrible earthquake took place on the 6th of April 1583," which was felt in a very remarkable manner by the ships lying in the Downs, as well as by some of the inland towns, the old Church of St. Mary Sandwich

* Upwards of four hundred sail have been counted, more than once, by the writer; and it is on record that three entire English fleets, under three different admirals, have been known to rendezvous in the Downs at the same time.

having been nearly destroyed by it, and that of St. Peter also injured. It was described as being accompanied by a "marvellouse greate noyse as though the same had been the shotte of some great batterie of a number of cannons going off at the same instant . . . which noyse seemed to be as though it had been midways between Calais and Dover." This, no doubt produced great motion and disturbance in the waters of the Downs, causing both fright and inconvenience to the crews of the various vessels then lying within their shelter. A repetition, it is said, of the shocks occurred again on the 2nd of the following May, attended by the same "greate noyse and shakinges as terrible as that in April last."

Again in 1692 another earthquake is recorded to have been felt in the Downs and all along the coast, doing very considerable damage in Deal and Sandwich, the shocks being severely felt in Deal Castle notwithstanding the immense thickness and solidity of its walls.

The first record of any waterspout having appeared in these waters, puts the date as the 24th of March, 1701. Many writers state that it was observed that day by the "ships of His Majesty's Fleet" just then lying at anchor in the Downs. It is described as having been of very great size, and of peculiar and striking appearance; and after moving rapidly about over the surface of the sea, in close proximity to the Goodwin Sands, for a period of about twenty minutes, it suddenly contracted and disappeared altogether without doing any damage. The weather was very cold and windy at the time, and the sea in a state of very

great agitation, the breakers rolling heavily in hillocks of white foam the whole length of the Sands.

A second waterspout is reported to have been seen in the Downs like the last, close to the Sands, about the year 1830, which is said to have in some way injured one of the men-of-war at that time lying at anchor near the Goodwins, but few or no details seem to have been recorded.

No account of the Downs would be complete without a reference to the celebrated storm commonly known as "the Great Storm," so graphically described by De Foe. This terrible visitation occurred on the 27th of November, 1703, and has been frequently referred to as the most appalling and destructive ever recorded in the pages of European history. As a full account of this will be found in the chapter devoted to "Wrecks" (page 166), it will be unnecessary to allude to it further here.

Another fearful storm is recorded to have broken over the Downs on the afternoon of the 18th of February, 1807, which occasioned an enormous amount of damage to the ships then lying in the Downs. A barque went ashore at Kingsdown, and every soul on board perished, a similar fate attending another ship in St. Margaret's Bay, whilst two others, one off Sandown and the other off Dover, were seen to go down with all hands on board. Many merchantmen that were known to have been sheltering in the Downs disappeared altogether, and were never afterwards heard of. It is quite possible—though not known as a fact—that they were all driven on to the Sands, where, of course, in such a fearful gale, they would soon utterly go to pieces, without the

chance of saving a single life. Three men-of-war riding at anchor in the Downs, the 'Saleby,' the 'Railleur.' and the 'Devastation,' were severely injured, their masts all "going by the board," whilst their hulls were badly damaged, but fortunately no lives were lost. In addition to all this, thirteen other vessels went ashore on the coast between Deal and the South Foreland, involving the loss of many lives and ships, together with much valuable property. It was estimated that altogether at least twenty-one vessels were lost throughout the Downs alone, either on the Sands or the neighbouring shores. The entire coast was strewed with property of every conceivable description, and it is said that wholesale robbery, which the authorities in vain endeavoured to prevent, prevailed to an extraordinary extent, all ranks and classes eagerly joining in the general pillage: a despicable and atrocious practice, common enough eighty or ninety years ago, but now happily unknown, thanks to a better state of feeling having grown up, and possibly to the effect of laws at once stern and just.

In the same year a very sad calamity, though of a totally different nature, occurred on the 30th of September, when the tide rose in the Downs as it had never done before, completely covering the Marshes to the north of the town of Deal, and reaching up to the houses, doing incredible damage, destroying cottages, fields, gardens, crops, cattle, and severely injuring scores of houses by making them damp and uninhabitable, and causing the greatest distress and loss to the farmers, cottagers, and other residents.

The Downs were again visited by another terrible

and most destructive storm on the 29th of November, 1836, when about 400 vessels were lying at anchor there. So suddenly did this hurricane arise that 10 ships were instantly dismasted, and a very large number foundered with all on board. The hovelling boats could offer no help, as they could not keep afloat owing to the extreme violence of the gale. Next morning only 150 vessels were left in the Downs, the whole of the others having been either blown away from their anchors, driven ashore on the neighbouring coasts, or hopelessly lost in the Sands. Great damage was also done on shore, the roofs, chimneys, and even, in some cases, the fronts of the houses, suffering severely.

The Downs have always held a prominent position in England's war history, even from the very earliest ages, and they seem to have been the general and favourite ground where both enemies and rebels were ready to stake their chances on the ordeal of battle. The channel here is very narrow between England and France, and being the great highway from Denmark and Flanders to France, Spain, and Portugal, was necessarily much frequented by vessels of all descriptions, and consequently afforded a fine opportunity for enemies of all kinds, privateers, or pirates, to lie in wait or cruise about with the view to battle or plunder. The Downs, and the seas north and south, were much infested, for the above reasons, by pirates and privateers, as will be found detailed further on, and many a gallant action has been fought out here, and many a

deed of blood and villainy committed by these lawless sea-rovers.

This spot may be said to be the very opening scene of English history, for it was here, in the Downs, that Cæsar anchored his fleets on the occasion of each of his landings upon the neighbouring shores of Deal. Here it was, too, on the low flat ground, now called the Sandhills, that we are told the whole of his fleet was hauled up on dry land and a great earthwork built round it ; * and it was no doubt from these waters that the war galleys sailed away in the year 404, when the Romans bid final adieu to Britain.

The whole region was also thoroughly familiar to those arch-pirates the irrepressible Vykings, and one of the earliest recorded of sea-battles took place in the Downs in the year 851, when a large Danish fleet, under Ealcher the Dane, was attacked between Sandown and Deal by the English, commanded by Athelstan, son of Egbert, the Danes being completely routed and dispersed with the loss of nine of their ships. The Danes, however, appeared again and again in subsequent years, plundering and burning Sandwich in 1046 ; but, after the Conquest, they appear to have abandoned all further attempts on these shores, probably from a wholesome fear of William the Norman.

It was here, in the Downs, that the first regular naval engagement at all worthy of the name, conducted in open waters, and by ships under canvas, was fought out between England and France. In the year 1215 a large fleet of ships was fitted out by Philip Augustus, King of France, at the instance of Pope Innocent III.,

* See Appendix No. 8.

backed by the most extravagant promises on the part of his Holiness, for the invasion and subjugation of England and the deposition of King John. The fleet was met in the Downs somewhere to the north of Deal by the English fleet, numbering 36 vessels, under the command of Hubert de Burgh. Cannon of any kind of course they had none, as gunpowder was not invented until a hundred years later, but each English ship was well provided with skilful archers, the old English longbow being the most formidable missile weapon of that day. The bowmen commenced the battle by a heavy fire of arrows, and when these had done their work the vessels were run up to close quarters and boarded, one detachment of boarders attacking the crews of the French ships, whilst another, armed with heavy axes, cut away the rigging and masts, thus disabling the ships at once. The onslaught was so fierce and determined that, although the Frenchmen displayed the greatest bravery, and were vastly superior in numbers both of vessels and men, yet they were powerless to resist the shock of the attack, and shortly surrendered to the English commander; whilst it is said that upwards of a hundred knights, rather than be taken prisoners, leaped into the sea just as they stood, and clad in all their heavy armour!

Another desperate naval battle was fought two years afterwards, in 1217, between the two nations. Louis the Dauphin of France, son of King Philip, was invited by the English barons to assist them in their quarrel with King John, the barons offering the crown to the Dauphin as a reward, if they succeeded in deposing the King. Accordingly a fleet of 80 ships

was fitted out and assembled at Calais and the neighbouring forts, for another descent upon the English coast. To meet this advance 40 vessels took up a position in the Downs under the command of the admiral of the Cinque Ports. Although the English ships numbered but half those of their opponents, the admiral, having apparently little fear of the result, weighed anchor and sailed towards Calais to look for the enemy. The meeting took place somewhere to the south of the Goodwin Sands, and the English, having the wind in their favour, adopted the plan followed in modern days by our own "steam rams," of steering full upon the enemy's transports and fairly running them down, by which a great many were sunk at once, and hundreds of soldiers as well as sailors were drowned. It is also related that a curious stratagem was adopted by the English to prevent boarding by the enemy. The decks of our vessels were said to be covered with quicklime, which, as the wind was very high, blew into the faces of the Frenchmen when they attempted to mount the ships' sides, and thus, being nearly blinded, they gave up the attempt. At least so goes the story—a most improbable one at best—so improbable indeed that few would be inclined to believe it.

A portion of the French fleet, finding that victory was hopeless, drew off, leaving the remainder to deal with the English as best they might, ran through the Downs, landing at Sandwich, carried the place by a *coup-de-main*, and having burnt and destroyed the town, retreated to their ships immediately afterwards, regaining the French coast by a circuitous route.

This appears to have been the last attempt of Louis to invade England and usurp the crown which had been so generously offered him by the English barons, and so magnanimously promised him by the Pope.

In the year 1340, an immense fleet was assembled in the Downs, by command of Edward III., to do battle with our "ancient enemy" across the Channel, in order to enforce Edward's claim to the crown of France, and to punish Philip, the son of John, King of France, for having aided the Scots in their wars with the English. This fleet, which assembled in June, 1340, numbered 260 ships, and they met their foes off Sluys in full battle array. The fight is described as having been long and bloody, and the loss fearfully great on both sides, but the English were victorious at last. The French numbered nearly 300 sail, of which it is reported that 230 were sunk, carrying with them the enormous number of 30,000 sailors and soldiers.

The next remarkable incident which was enacted in the Downs occurred in 1459, when the large fleet, under Sir Simon de Montfort, which was lying in the Downs for the express protection of Sandwich, was surprised by Richard Neville, Earl of Warwick—the "Kingmaker"—when Montfort's entire fleet surrendered almost *without a blow*; one of those extraordinary circumstances which we occasionally read of in the pages of history, but which history entirely fails to account for, or even explain.* Warwick at once advanced on Sandwich, which was again pillaged and

* The surrender of the strongly fortified and fully provisioned city of Metz in 1870, for instance, with a garrison of 85,000 men amply provided with every requisite for war.

burnt as well as all the villages near it; after which the conqueror retired to the coast of France, with the whole of the ships he had taken.

After the death of the Earl of Warwick, his brother Thomas Neville was—perhaps unjustly—deprived of his command as Admiral of the Channel. This so exasperated him that he at once turned rebel and pirate, and having assembled a fleet, visited the Downs in 1471, landed at Deal and proceeded to Sandwich, Canterbury, and London; but, finding his followers deserting him, he was glad to escape by means of his ships to the Thames, and retreat to Sandwich, where, however, he was pursued by the forces of Edward IV., and the unfortunate city was again the scene of another siege, Neville holding out stoutly against the King, but the city being finally reduced by the Royal troops, the Admiral was taken prisoner, brought to London, and shortly afterwards executed.

It was here that the notorious pretender Perkin Warbeck, the personator of the young Duke of York, who was murdered in the Tower of London by his Uncle Richard in 1483, anchored his fleet in July, 1495; but, fearing to land himself until he could form some idea as to how he was likely to be received, sent forward 150 of his followers to ascertain the feeling and the temper of the people. This not being altogether satisfactory, the graceless coward sailed away, leaving the whole of these unfortunate men behind. They were, as might be supposed, immediately seized as rebels and marched to London in chains, where they were all executed under circumstances of the

greatest barbarity, their bodies being quartered, and sent round the coasts of Kent and Sussex for exhibition on gibbets.

These historical waters, and the seas to the north, south, east, and west, were the favourite hunting grounds of the celebrated Scottish privateer *Sir Andrew Barton*, who sailed under "letters of marque" specially granted to him and his brother by James IV. of Scotland, in order that they might make reprisals on the Portuguese for losses at sea sustained by their father, a "merchant venturer" of great wealth—at least such was the pretence; for though sailing as a "privateer," under Royal authority, there can be no sort of doubt that Barton was no better than an unscrupulous, daring, and villainous pirate, who, with the excuse of overhauling vessels for Portuguese goods, took care to help himself to everything of value that came in his way, no matter whether the ships attacked were foreign or English. He was said to be the bravest and most accomplished sailor of his day, and his two ships, the largest and best equipped of the time, saving always the 'Great Harry,' built in 1504. Barton's own vessel, the 'Lion,' carried 36 guns, and that of his brother, the 'Unicorn,' 30, very large armaments indeed for those days. He ultimately amassed great riches, and grew at last so bold and audacious that complaints were made almost daily to the Privy Council, and to the King himself (Henry VIII.), of the piracies, excesses, and misdeeds committed by the two brothers. On this the King ordered two vessels to go in immediate pursuit of him, commanded by Sir Thomas and Sir Edward Howard, sons of the Earl of Surrey,

the same Sir Edward who was afterwards created Admiral of England. The brothers came up with Barton somewhere to the north of the Downs, on the 2nd of August, 1511. A desperate conflict followed, Barton exhorting his men not to flinch, and encouraging them by his well-known whistle; but the 'Unicorn' having been sunk with all hands aboard, and Sir Andrew himself shortly afterwards killed by an arrow, the 'Lion' was boarded and taken by the Howards and towed into the Thames.*

The prodigious number of ships-of-war which were wont to assemble in the Downs at this period, when descents on the French coast or other hostile operations were contemplated, seems to us moderns almost incredible. Thus we read that Henry VIII. sailed from the Downs in 1513, for the invasion of France, with 400 ships, having on board 600 archers, the whole fleet under the command of Admiral Lord Howard; and again, the next year, 1514, Lord Lovell left the Downs with another fleet of 400 vessels, and a force of 5000 men, for the purpose of strengthening the garrison of Calais. It seems a marvel that nearly 1000 ships could be readily gathered together within the small space of two years. Even in these days, with all our ample resources and vast wealth, it would be a task, not altogether without some difficulty, to assemble together, *at such short notice*, so very large a force of war vessels and transports.

The great and illustrious Emperor, Charles V., nephew of Katharine of Arragon, when he came to England to visit Henry VIII. in 1520, was attended by

* See Appendix No. 9.

a fleet of 44 war-ships, which lay at anchor in the Downs during his absence with the King ; and it was from thence that these Sovereigns sailed to meet Francis I. of France, to be present at the famous "Field of the Cloth of Gold" at Guisnes.

The dwellers in Deal and its neighbourhood will be much interested to know that the first regularly recorded instance in history of the saving of life by a "Deal Boat," so expressly mentioned, occurred in 1563, when the Earl of Warwick, having been appointed Governor of Newhaven by Queen Elizabeth, sailed for his destination from Portsmouth, but was driven by contrary winds to take refuge in the Small Downs, and his ship the 'New Barke,' being in the greatest danger, and threatened with immediate destruction, he and his staff were taken off by a "Deal Boat"—so named in the record—and landed in safety at Sandown Castle, whence he proceeded to Dover, to start a second time for his destination, only to be a second time driven into the Downs for shelter. He managed, however, at last to reach Newhaven, after much vexatious delay.

The Downs, and the waters adjacent, which had for centuries become almost the highway of commercial Europe, about this period were greatly infested with pirates, French, Flemish, Portuguese, and, it must be confessed, English too, as the following statement will show:—Three men-of-war called the 'Antelope,' the 'Swallow,' and the 'Aide,' with 500 men, were expressly sent, in 1568, by order of Queen Elizabeth, to cruise in the Downs for the avowed purpose of making prizes of any vessels they might fall in with. In a very short time it is reported that they had captured

11 Flemish and 14 Portuguese merchantmen laden with plate, wine, spices, etc., which were all speedily sent off to London. Although under the express orders of the Queen, yet it cannot be denied that this sort of wholesale and indiscriminate robbery is simply downright piracy, and nothing else; but the old excuse may be readily urged, "If all others do it, why should we refrain?" which happened to be perfectly true, as the Lord William Somerset found to his cost a year or two afterwards. He was sent as the Queen's proxy, to be present at the christening of the child of the King of France, and took with him, amongst other complimentary gifts, a magnificent "font of gold," said to have weighed 326 ounces. Somewhere between Sandwich and Calais he was attacked by pirates (we are not told of what nationality), who robbed him of the whole of his valuables, including the splendid font. This so incensed the Queen that she ordered Captain Holstocke to take post in the Downs, with a number of vessels, and to destroy, without mercy, every piratical ship he could manage to catch. In less than a month, we are told, the gallant captain had secured 20 pirates of all nations, and 900 prisoners, all of whom were immediately incarcerated, whilst large numbers of them were executed. Then having manfully fulfilled his commission, and destroyed these so called-pirates, the high-principled captain, by way of improving the occasion, turned pirate himself, and quickly succeeded in capturing 15 merchant ships with rich cargoes, all of which were sent into the Downs for security. This history gives us a singular specimen of the ideas of our ancestors 300 years ago, as regards moral honesty and

consistency of purpose, especially in matters of *meum et tuum*. The very man who was sent out, under the authority of the Queen's commission, to punish piracy, deliberately turns pirate himself, and as deliberately plunders every merchant ship which falls in his way—a specimen of atrocious villainy which nothing can excuse or justify.

Following the course of history in regular order, the next event of importance which occurred in and near the Downs, was the final defeat and dispersion of the celebrated "Invincible Armada." As the history of the whole expedition is so thoroughly well known, I will merely remind the reader that, as it was supposed the Spaniards intended sailing up the Channel and landing on the flat shores of the Downs, at or near Deal, a strong force was assembled all along this coast, so stationed as to act in concert on any one given point where a landing might be attempted. Queen Elizabeth had been strongly urged not to trust to her naval forces, but to permit the Spaniards to land first, and then to depend solely on her military power to crush the invaders on shore. Fortunately she thought otherwise, and determined to meet the enemy on the sea, before he had the chance of even effecting a landing.

"The most fortunate and invincible Armada," as King Philip so arrogantly termed it, consisted of 130 ships, and 20 caravels, having on board nearly 22,000 soldiers, 8,766 sailors, 1,355 volunteers, noblemen, gentlemen, and others, and 2,088 galley slaves, with 3,165 pieces of ordnance, the whole commanded by the Duke of Medina Sidonia, with Admiral Recalde as

second. The English fleet altogether numbered about 191 ships, that is to say, that was the number collected by the Government, including those offered by patriotic gentlemen, noblemen, and volunteers. The whole was commanded by Admiral Lord Howard of Effingham, with Drake, Hawkins, and Frobisher, as Vice-Admirals. A part of the fleet, under Lord Henry Seymour and Sir William Winter, lay off Flanders to intercept the Prince of Parma and his fleet of leaky, flat-bottomed boats. The Armada, after many mishaps, finally arrived off the Lizard about the 21st of July, 1588, and when near Plymouth, was immediately attacked by Effingham, and a running fight was carried on the whole way up the Channel, the enemy retreating, and the English following closely, doing great damage to the huge Spanish vessels by the smartness and dexterity with which both our ships and guns were handled. The Armada eventually came to anchor to the south of the Goodwins, the pilots having given timely warning to the fleets of the dangerous proximity of the Sands, and it was hereabouts that the final action was fought out.

The English fleet, having been joined by Seymour and Winter, now numbered about 190 vessels, and having spread the greatest alarm and confusion among the enemy by sending in eight fire-ships, now fell upon the Armada with the greatest fury, and after a sharp fight of fourteen hours, the Spanish Admiral ordered a retreat northwards, still, however, closely followed by Effingham and his brave admirals, until, most unfortunately for England's glory, their ammunition *totally failed*, inasmuch as every round had been expended,

and the fleet was compelled to give up the pursuit. But for this untoward misfortune, the English would have compelled the "Invincible" Armada to have surrendered at discretion,—a most illustrious and brilliant conclusion to the English enterprise. As it was, the Spaniards only escaped by sailing through the North Sea, and round by the east and north coasts of Scotland, and the west coast of Ireland. And it was in its passage along this latter coast that the disasters and distresses of the Armada were most deplorable. The loss of officers and men here by shipwreck and sickness, and the destruction of their ships, exceeded in a great degree all their misfortunes and discomfiture in the English Channel, the Downs, and the North Sea. An account, taken apparently with great care, after a minute examination of various parties, in different parts of the coast, gives the following result:—

	Ships.	Men.
On the west coast of Ireland were wrecked and destroyed	17	5,394
In the British Channel, the Downs, and the North Sea, it was estimated at least . .	15	4,791
	32	10,185

This *does not include* those who were killed in fight, or who died of wounds, sickness, or famine; and thus, after many vicissitudes from winds and waves, the once mighty and so-called "Fortunate and Invincible Armada," or, more strictly speaking, what was left of it, reached Spain a miserable wreck. Out of 150 ships which started with the determination of conquering England and capturing the Queen, a little over 50, shattered and broken, returned, whilst nearly a hun-

dred were either burnt, sunk in action, taken by the English, or lost by storm or tempest. Stow makes the loss even greater still, and Harris and Hakluyt (quoted in Barrow's 'Life of Drake') say: "Of one hundred and four and thirty sail that came out of Lisbon, only three and fifty returned to Spain. They lost 81 ships, and upwards of 13,500 men." Elizabeth's medal, struck to commemorate this great event, spoke truly enough in the famous motto, "Afflavit Deus et dissipantur." *

During the struggle between the King and the Parliament, Prince Charles (afterwards Charles II.), entered the Downs early in the year 1648 with a large fleet, although with what exact intention or for what purpose we are not told. The Earl of Warwick, having notice of this, immediately sailed from Portsmouth with several ships, and cast anchor in the Downs. Charles, however, being short of provisions, though said to be anxious and willing to fight, returned to Holland, but in August of the same year he again appeared in the Downs, and attacked the town of Deal, then defended by the Parliamentarians under Colonel Rich. The Royalist forces landed at the sandhills a little to the north of Deal, and marched to a position having the marshes in front. Rich's cavalry began the conflict by advancing across the marshes; but being greatly disconcerted by the rough and irregular nature of the ground, and the sharp fire of the Royalists, were compelled to retreat in great confusion, and the Royalists, leaving their strong position, and advancing to firmer ground were taken in flank by the horsemen

* See Appendix No. 10.

whilst a vigorous infantry charge met them in front at the same moment. The fight was short and sharp, but after a gallant resistance, Charles's troops fled in utter disorder, leaving a large number of dead and wounded behind them, the survivors getting on board the ships as well as they could, a movement which it does not appear that Rich's forces made any attempt to prevent.

War having been declared against the Dutch in 1652, the Downs were the scene of much fighting between the navies of England and Holland. Van Tromp, the famous Dutch admiral, with 40 ships, had anchored in the Downs, close to the North Sand Head, with the intention of attacking Sir George Ayscue, whose fleet was then lying in the Downs just opposite Deal, the whole of the low-level shore being protected by earth-works and artillery. Van Tromp, however, for some occult reason, suddenly altered his mind, weighed anchor, and sailed away to the North Sea in pursuit of Blake, whilst Ayscue, at the same time, fell in with 30 merchant ships from Holland, convoyed by four Dutch men-of-war. The whole of these were either taken or destroyed by Ayscue after a sharp action in the Southern Downs just below the Goodwins, and in sight of Dover. Meantime Van Tromp speedily returned with an immense fleet of 70 ships of war guarding a number of merchantmen through the channel, and on the 29th of November he encountered Blake, whose fleet had been partly dispersed for the winter, and now only numbered 40 ships. Heading these, however, in his own ship the 'Triumph,' Blake at once gallantly attacked the Dutchmen. A desperate battle ensued,

entailing fearful loss on both sides, but Blake effected a safe retreat to the Thames, whilst Van Tromp sailed away to Holland. Van Tromp made a great deal of this action, always claiming it as a "decisive victory," when in reality, it was something very like a drawn battle in which neither party gained any advantage. Van Tromp's triumph, however, was but of short duration, for, not very long afterwards, he again encountered Blake off Dungeness, when he was totally defeated and his fleet entirely destroyed.

But one of the most prolonged and terrible actions ever recorded in the annals of British naval history took place the following year, 1653, when Cromwell determined to carry on the war against the Dutch. A vast fleet, under the joint command of Monk, Dean, Penn, and Blake, numbering over 100 sail, kept watch in the Downs and Channel, harassing and attacking the Dutch on every possible opportunity; but being decoyed away to the North Sea by a clever stratagem of Van Tromp's, that astute sailor immediately appeared in the Downs capturing every vessel that came in his way, and finally attacking the batteries of Deal Castle. On the 31st of May, hearing of the approach of the English fleet, Van Tromp—doubtless bearing in mind his defeat of the previous year—immediately set sail for the coast of Holland; but he was met by the English a little to the north of the Goodwin Sands. The fleets were fairly matched, each numbering about 100 ships. A severe engagement followed, which was continued without intermission for over *two whole days* with unabated fury, when the Dutch were at length finally defeated with the loss

of 13 ships, 7 taken and 6 sunk, 1,550 of their crews prisoners, and over 2,000 killed and wounded.*

An unusual sight was witnessed in the Downs in May 1672, namely, an English fleet of 100 ships and a French fleet of 40, meeting not in fierce rivalry with guns run out and linstocks burning, ready for immediate action, but in amicable combination for the purpose of attacking a common enemy—the Dutch—in accordance with a treaty between Charles II. and Louis XIV. The allies soon fell in with the Dutch fleet of 120 sail off Southwold, Suffolk, and after a desperate action, involving immense loss on both sides, the allies were victorious, and the remains of the Dutch fleet retreated to Holland.

A very amusing circumstance, which in these days would be called a "scare," occurred in the year 1688, which is thus described by a local historian, Pritchard, in his very interesting 'History of Deal.' "On the 14th of December, 1688, a report was sent to Sandwich from Deal, that a large number of Irish Roman Catholics were in the Downs on board several ships; and that they were going to land on Deal Beach, with hostile intentions. To prevent this design it was deemed necessary that the male population should sally forth and occupy the three Castles of Sandown, Deal, and Walmer. No less than 20 strange vessels had anchored in the Downs, and the Deal boatmen, in attempting to board them, had been rudely repulsed; hence it was concluded that some mischief was intended. The inhabitants were dreadfully alarmed and excited in consequence, so that trades-

* See Appendix No. 11.

men, mechanics, seamen, and gentlemen all congregated together, armed as best they could, to repel any attack that might be attempted. Some had clubs, swords, and pistols; others scythes, or anything indeed they could lay their hands on . . . . All this was occassioned by the flight of King James II. (1688) which was strengthened by a report that the French King meant to reinstate him on the throne of England, by an army to be landed on the coast." The historian goes no further, and we are not even informed what became of the terrible and mysterious fleet, the mere sight of which, backed by the unsupported stories of the repulsed boatmen, had worked such a marvellous panic amongst the patriots of Deal and Sandwich. The vessels were, likely enough, simply wind-bound merchantmen, and the crews, very probably foreigners, speaking no English, and thereby misapprehending the attentions of the worthy boatmen; and it is quite possible that the crews were neither Irish nor Roman Catholics, and that they never, for a moment, entertained the smallest thought of "landing" at all, certainly not with hostile intentions against the good people of Kent, in favour of either the deposed King, or the Roman or any other Church whatever.

And now historical truth obliges me to refer to an occurrence certainly not common in the annals of English Naval History, namely, a defeat; but although we were beaten certainly, yet the action was a most brilliant affair, and the English bore themselves right bravely in the face of the most overwhelming odds. In the year 1706, Commodore Wylde was engaged in convoying 55 English merchant ships out of the

Southern Downs, when he was unexpectedly attacked by a French fleet of no less than 15 sail. The Commodore had only three war ships with him, all 74's—his own, the 'Royal Oak,' the 'Grafton,' and the 'Hampton Court.' The unequal contest was maintained by Commodore Wylde for nearly three hours with most determined courage and gallantry, until both the 'Grafton' and the 'Hampton Court' were disabled and taken, but the 'Royal Oak,' though assailed by three huge Frenchmen, contrived, notwithstanding her shattered condition, to make good her retreat back into the Downs, whither, for some unexplained reason, she was not followed by any of the French fleet, and so effected her escape. One half of the merchant ships, in addition to the two men-of-war, fell into the hands of the enemy, but the remainder managed to get away.

A very interesting circumstance may now be mentioned as having happened in the Downs, which, though not a battle, was the consequence of a very great and celebrated one. On the 16th of December, 1805, H.M.S. 'Victory' anchored off Deal, under jury masts, just as she had come direct from the scene of the memorable fight in "Trafalgar's Bay" eight weeks before, having on board the body of Nelson. Here she remained for three days, owing to a heavy northerly gale, and during this time the greatest possible respect was shown to the presence of the illustrious dead, every flag, ashore and afloat, being run up half-mast.

The last demonstration of any kind that took place in these historical waters, though not in any way pertaining to warlike operations, was a display of boats

manned by civilians and carried out in November, 1842. It was intended in honour of, and to express their loyalty to Her Majesty Queen Victoria, on the occasion of her visit to Walmer Castle, then in the occupation of the Duke of Wellington, as Lord Warden of the Cinque Ports. The whole fleet of first class luggers belonging to Deal, Walmer, and Kingsdown, on a pre-arranged signal being given, were launched from the beach simultaneously along the whole line of coast, and made sail for the Downs, and then, under full canvas, passed in front of Walmer Castle. The boats numbered over 50, and the spectacle is described as having been most animated, and was certainly very novel of its kind, from the fact of the great number of luggers all appearing at once, keeping together, and steering in the same direction. Her Majesty, Prince Albert, and the Duke of Wellington were all highly gratified at this interesting demonstration; and those in the Royal suite who knew anything at all about such matters, were particularly struck by the consummate skill and admirable tact displayed by the Kentish "hovellers" in the handling of these fine first class luggers, as they were sailed backwards and forwards through the Downs.*

Amongst the many "landings" which have taken place at different periods on these old historical shores or their immediate neighbourhood, there are two which ought not to be forgotten, one in 1539, and the other in 1818. On each occasion a gallant fleet anchored in the Downs having in charge a fair and amiable princess.

* See also "Defences of the Downs" for another demonstration by luggers, p. 78.

Each of these ladies landed at Deal, receiving every mark of respect and loyalty from the inhabitants, and each ultimately became Queen of England. The first was Anne of Cleeves, fourth wife of Henry VIII. under the escort of Lord Southampton, and a fleet of 50 ships; the other was the Princess Adelaide of Saxe Coburg Meiningen, afterwards Queen Adelaide, wife of William IV. The Princess was attended by Admiral Lord Keith and a large fleet of men-of-war. It is well known that Her Majesty always entertained a kindly recollection of her warm and generous reception by the good citizens of Deal, remembering too that here it was that she first touched British ground. The "Royal Adelaide Baths" at Deal were so named in honour of Her Majesty. They were taken down in 1887.

Defences of the Downs.

The flat open shore of East Kent, lying between the two Forelands, forming the western boundary of the sheltering Downs, and in close proximity to France, has always offered convenient "landing-places" for invaders, which fact Cæsar and the Danes were not slow to discover, as well as enemies much nearer home. Nor must we forget the commanders of the "Fortunate and Invincible Armada," whose plan of operations was to sail up the Channel and land on the flat open shores of either Sussex or Kent, only their good intentions were somewhat rudely frustrated by Effingham and his brave comrades. The first to notice this fact, as well as the open and defenceless state of the coast, was Henry VIII., whose frequent voyages across the Channel

must have rendered him very familiar with these shores, and whose keen eye and versatile ability nothing seemed to escape. Froude says of him: "He was his own engineer, inventing improvements in artillery and new constructions in ship-building; and this, not with the condescending incapacity of a royal amateur, but with thorough workmanlike understanding. . . . In all directions of human activity Henry displayed natural powers of the highest order and the highest stretch of industrious culture." * To Henry, therefore, the country was indebted for the protection and fortification of the shore before referred to, and Lambard tells us in his History that "castles, platforms, and blockhouses were erected in all needful places, fearing lest the ease and advantage of landing on this part should give occasion and encouragement to his (the King's) enemies to invade him." Three strong and permanent works were accordingly built; two remain in perfect preservation to the present day, and the ruins of the third. These are the castles of Walmer, Deal, and Sandown, situated about a mile apart; Sandown being the most northern and Walmer the most southern. These three were begun by Henry, but completed by Elizabeth, who made a personal inspection of them all on the occasion of her visit to Sandwich and Deal. Stowe tells us that the cost of these defences was paid partly out of the money produced by the plunder of the suppressed monasteries, and partly by robbing Canterbury Cathedral of everything of value that it possessed—a statement that few will read without feelings of unutterable shame and

* Froude's History, Vol. i., p. 158.

disgust. The plan of these three castles was the same, a massive central round tower, surrounded by four bastions and lunettes, with heavy walls from 11 to 20 feet in thickness, and the whole encircled by an immensely wide and deep moat.

Walmer and Deal Castles have each of them a modern dwelling-house, which, with singularly bad taste, has been erected on the ramparts, giving them a peculiarly strange and unsightly appearance. Walmer stands back further from the sea than either of the others, and possesses the advantage of beautiful and extensive gardens at the back, stretching inland. It is the official residence of the "Lord Warden of the Cinque Ports," and will be always memorable as the last residence of the great Duke of Wellington, who died there on the 18th of September, 1852.

Deal Castle is quite on the beach, and has no garden at all, except the huge moat, which is very neatly cultivated. It is always occupied by the "Captain." *

Old Leland, albeit he was not much given to joking, has a Latin distich in honour of the then newly-built castle of Deal :—

"Jactat Dela novas celebris arces,
Notus Cæsaris locus Trophæis."

of which he favours us with the following free translation :—

"Renownèd Dele doth vaunte itself,
With turrets newly raised,
For monuments of Cæsar's host
A place in storie praised."

* At present (1885) Lord Granville is "Lord Warden of the Cinque Ports," and Lord Sydney "Captain" of Deal Castle.

alluding, I presume, to the fact that Cæsar's landing took place in the immediate vicinity of the site of the castle, of which event the castle would be a sort of monument.

Sandown Castle has long ceased to be anything but an interesting ruin. The sea had been long encroaching upon it, and in 1785, during a violent storm, the moat on the east (or sea) side was completely destroyed and filled up with shingle; and in 1793 the Castle was declared unfit for habitation. It was, however, repaired and a small garrison kept there during the wars of the early part of this century, and latterly it was used as a Coast Guard station, until, becoming thoroughly unsafe, the Government in 1864 sold what they could of it for £565 and dismantled the rest. The sea, however, continuing the work of destruction, the authorities determined to remove the Castle altogether, and in the autumn of 1882 the ruins were handed over to a contractor from Dover for the purpose of transferring the stones to build an additional wing to Dover Castle. The taking down of this old structure was found to be a work of much difficulty, as the stonework is bedded in with concrete made of the old Roman cement, which is absolutely harder than the stone itself, so that it had to be frequently loosened with gunpowder. The vast thickness of the walls and the fine quality of the masonry have been plainly exhibited in the laborious difficulties encountered in their removal.

This castle is only memorable as having been for eleven months the prison of Colonel Hutchinson, one of the regicides who signed the death-warrant of King

Charles I. The Colonel died here in September, 1664, and a memoir of him which appeared in a number of *Good Words* (1880), endeavours to impress the public with the idea that the Colonel was not only a patriot, but a genuine hero and martyr as well—a proposition about which there are certainly two opinions.*

In 1793 two so-called "batteries" were erected on the shore to the north of Sandown Castle, for the further protection of the coast, and a telegraph established at the Naval Yard, repeating at Betshanger as already stated, in order to communicate direct with the Admiralty.

Nor were the defences of the Downs confined to works on land only, for in 1803, on the renewal of hostilities with France and the expected invasion by Bonaparte, the inhabitants of Deal hit upon the ingenious and novel expedient of fitting out a fleet of the largest and strongest of the Deal luggers, each armed with one carronade, a 12 or 18 pounder according to the size of the boat, and manned by Deal "hovellers." In the age of slow sailing, and before the days of steam, such a fleet of gunboats handled by skilful and determined men, would, no doubt, from the celerity of their movements, have proved most efficient, and done good service had they ever been called into action.

Thirty-five of these boats, so armed, were reviewed on the 15th of September, 1803, by William Pitt, when Warden of the Cinque Ports. The boats having formed in line between Deal and Walmer, the whole

* See Appendix No. 2. Sandown Castle.

fleet fired a salute in front of the Castle, on the ramparts of which Mr. Pitt and a large party of friends were standing. After this Mr. Pitt and some friends, embarked on board one of the finest luggers commanded and steered by Captain T. Canney, Warden of Pilots,* and sailed up and down and round about the little fleet, amidst the most deafening cheers from the boats, which were quickly taken up, and responded to with hearty goodwill, from the assembled crowds upon the shore. The smart and skilful handling of the boats was very greatly admired, as well as the precision of the salutes, considering the fact that few—if indeed any—amongst the crew had ever received the advantage of instruction or any sort of training as seamen gunners.

Besides these energetic Volunteers for naval purposes, a battalion of infantry and a squadron of cavalry were raised for land service, under the title of the "Royal Cinque Port Fencibles." These were composed entirely of Volunteers, and numbered in their ranks members of some of the best families of East Kent; nor must it be forgotten that William Pitt himself was enrolled as a private of the infantry division. In connection with this latter fact, an interesting anecdote is related to the effect that, during the Lord Wardenship of the late Duke of Wellington, two young gentlemen, who were among the visitors at Walmer Castle, one wet day discovered, in some old lumber they were amusing themselves by closely examining in one of the bastions of the old castle, a small regimental tin canteen which had formed

* See Appendix No. 12.

part of the "kit" of a private in the infantry division of the 'Royal Cinque Port Fencibles," and on looking closer they found engraved on it the name of the former owner, "private William Pitt." They at once carried this interesting relic to the Duke, who ordered it to be carefully preserved in the castle, where, I believe, it yet remains.

Happily, however, for this country the services of these gallant patriots were never required on either sea or land, for the long threatened "invasion" of our shores was, after vast preparations and much gasconading, at length abandoned by the arch-disturber of the peace of the world; that is, if it was ever really seriously contemplated at all—a question still open to some considerable doubt.

Harbours for the Downs.

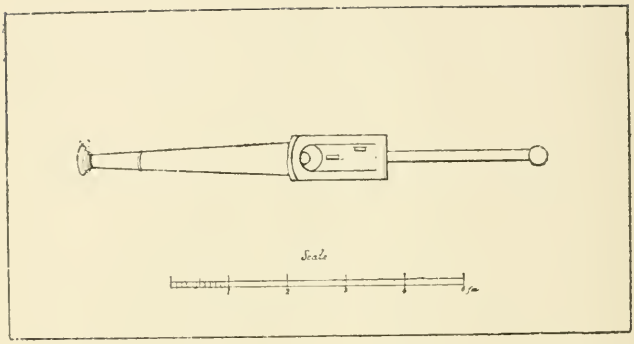
The idea of forming a Harbour opening on to the Downs from the coast, appears to have been originated so far back as the year 1705, when certain Commissioners were appointed to survey and report on the possibility of the scheme. This they appear to have done, and to have made a very favourable report on the possibility of forming a large harbour to the north of the town of Deal, just beyond Sandown Castle, and amongst the sandhills there; but, from some cause or other not explained, nothing more was ever done, and the proposal, though undoubtedly excellent in itself, seems to have been given up, perhaps from want of funds to carry out a scheme in itself necessarily very costly.

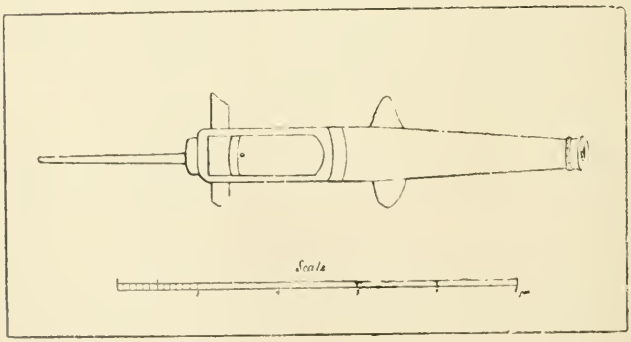
Thirty-one years afterwards, however, in 1736, the subject was again mooted on petitions to the House of Commons from Deal and Sandwich, and another commission was appointed, when, after due surveys, an estimate was made amounting to £389,168, a very large sum for those days, but still nothing was done. Meanwhile another petition, backed, no doubt, by some very powerful interest—for in this country nothing can be done with governing bodies without that wondrous lever—was presented by the town of Ramsgate to the House of Commons, when, after the usual official fencing and delay, it was at length decided that a harbour should be constructed at Ramsgate instead of either Deal or Sandwich; and this was accordingly done, as all the world knows, or ought to know, and the cost from first to last is said to have very considerably exceeded two millions! It was predicted before the works were begun, that the building of a pier into the sea projecting from Ramsgate Cliffs would, by altering the set of the tides, seriously interfere with the course of the river Stour, silt up its mouth and so destroy the harbour and haven of Sandwich. Whether this is really so or not, one thing is quite certain, that, from some potent cause or other, Sandwich Haven is now but a shoal, and that it is only kept open by considerable labour and some cost, and that the trade of the town has very greatly suffered in consequence. Whether this unfortunate state of things is actually occasioned by the projection of the piers of Ramsgate harbour, or may be attributed to purely natural causes, is a question on which local opinions appear to differ widely.

In more recent times a remarkable suggestion was made by the late Sir John Rennie, and that was to convert the Small Downs (see the Chart), lying between the shore and the bank called the "Brake," into a Harbour of Refuge of over a thousand acres in extent; but the proposition was given up for the extraordinary reason that the "Brake" is actually stated to *move*, it having advanced, in 45 years, 600 yards nearer to the shore! At least, so it is said; but it should be remembered that the "Brake" is not loose shifting sand like the Goodwins, but a mound of clay, nearly five miles long, with flints and stones all over the top, a solid, massive, hill, in fact—a somewhat ponderous matter to "*move*" under any circumstances. What seems, however, far more probable is that sand may have been constantly accumulating in large quantities on the sides and top of the "Brake," occasioned by the set of the tides, and thus diminished the apparent space between the bank and the shore by 600 yards;—hence the idea that the entire mound itself had actually *moved* that distance, a statement very difficult of belief.

The extraordinary proposals of Bush, and other practical engineers, for converting the Goodwins themselves into a Harbour of Refuge will be found fully detailed in Chapters V. and IX.

An admirable scheme was propounded in 1838 by Mr. Cundy, a well-known civil engineer, which was to construct a Harbour to the north of Sandown Castle, with spacious docks annexed, on the site of the now utterly useless Sandhills, and to connect it, by railway, with London, Deptford, Woolwich, Chatham, Sheerness, and Canterbury. A grand proposal, and





ANCIENT GUNS.

well worthy of the most serious attention, for vessels could enter these docks, discharge their cargoes direct into railway vans, which might be at once despatched to London, reaching that city probably in three or four hours, and thereby save the long and weary sail all round the Foreland and up the Thames,—a most important consideration when such commodities as the new season's "first teas" are to be *first* in the market.

Unfortunately, however, this grand and comprehensive scheme all fell through, and nothing was done, possibly on account of the prodigious outlay that such a vast scheme would involve. It is, however, not at all improbable that, at some future day, the value of this plan, in its national, as well as commercial, aspect, will be recognised, and the undertaking ultimately carried out by the intelligent determination of private energy and enterprise.

Antiquities discovered in the Downs, and in the Goodwin Sands.

A singular and very interesting relic was brought to light in the year 1775 by a party of Ramsgate "hovellers" whilst engaged in "sweeping" for anchors* lost in the Gull Stream. Their drags brought up a very heavy substance to the surface, which was found on examination to be a very old and curious brass gun, which competent authorities, after a careful inspection, pronounced to be of Portuguese manufacture of about the year 1370. It was what is commonly called a "Chamber Gun," that is to say, a sort of breech-loader,

* See Appendix No. 7.

in which the chamber—not the gun—is loaded separately, and then lifted into an open cutting in the breech, the barrel of the gun forming the tube to direct the course of the shot.—a practice which has been discontinued for centuries. The chamber in this specimen has been lost.

The gun, which was of brass, measured, including the chamber, 5 feet 2 inches in length, and attached to this again was an iron handle 2 feet 8 inches long, for the purpose of turning the gun on its pivot, for it was evidently a wall or bulwark swivel piece, and carried a ball of about 2 or 3 pounds weight. Near the muzzle was embossed a shield of the arms of Portugal, below this is an armillary sphere, and below this in a shield are the initials C. F. R., rudely designed, which have been thought to mean "Ferdinandus Castellæ Rex," as Ferdinand of Portugal claimed the sovereignty of Castile; although they might be merely the initials of the master founder by whom the gun was originally cast. When discovered it was partially encrusted with sand and sea shells, as represented in the drawing on the opposite page, which is taken from the 'Archæologia,' vol. v. (1779).* It has been conjectured that it was either probably lost about the time that John, Duke of Lancaster, asserted a claim to the Castilian dominions; or, what is far more likely, that it might have been on board one of those ships of the dreaded Spanish Armada which were sunk in the Downs when

* This gun was exhibited at Ramsgate in 1775 by the men who found it. I have entirely failed, after much careful inquiry, to ascertain what ultimately became of either this gun or of the Roman dolium referred to further on.

the famous fleet was totally defeated in the last bitter struggle off the Goodwins in July, 1588 (see *ante*, p. 65).

A second and equally curious old chamber gun was also dredged up from the Goodwin Sands by some boatmen whilst "sweeping" for anchors in 1830. It is entirely of iron, having, like the last, an iron handle in the rear for traversing. The chamber, and the wedge which secured it, still remain in their places in the cavity at the breech, where they are set fast by rust and corrosion, which have also operated to nearly destroy both the shape and appearance of the gun. The probable date of the weapon is about the middle of the 14th century, for chamber guns of this description were much used at that period. It is 4 feet 4 inches long from muzzle to breech, the iron handle measuring 1 foot 11 inches, making the total length 6 feet 3 inches. The circumference at the trunnions is 16 inches, and of the bore 3 inches. When first brought ashore it was sold for old iron to a marine store dealer at Deal, where it was afterwards very fortunately discovered, and secured for the Dover Museum, where it is now deposited.

It is quite possible that, like the old gun first described, it may have been on board one of the vessels of the Armada which were sunk in the Downs when the fight ended in July, 1588. Or it might indeed have formed one of the armament of 30 guns carried by the 'Unicorn,' commanded by the brother of Sir Andrew Barton, when that ship was sunk in the Downs, and the 'Lion,' Sir Andrew's own ship, surrendered to Sir Edward Howard, after a desperate and gallantly fought action, on the 2nd August, 1511 (see *ante*, p. 61).

Another very interesting relic was found in the year 1860, by some fishermen whilst trawling at the "back"—*i.e.*, on the eastern side of the Sands—in the smack 'Vigilant' of Hull. The net, on being drawn up, was found to contain a weighty, odd-looking substance which turned out to be a very remarkable specimen of Roman pottery, namely, a "dolium" of clay. It measured 5 feet 9 inches in circumference, and 2 feet 6 inches in height, and is calculated to hold 16 gallons. It is round at the bottom and has two handles.

When first brought up it presented a very curious appearance, being covered with sea-weed, oyster, and mussel shells, as well as with a deep and beautiful coating of corallines. The sea-weed was scraped off by the fishermen, but portions still remain, particularly of the corallines, about the neck of the vessel. Some of the Roman dolia, were of much greater dimensions than this one, and Birch, in his 'Ancient Pottery,' speaks of them as high as two metres, and requiring two oxen to draw them. He mentions an ancient Roman vase so large that a man required a ladder of twelve steps to reach the mouth. The Romans kept their wine stored in large "dolia" in their cellars, and from these the liquid was *poured* into the smaller amphoræ which sometimes were shaped with a pointed base, probably to fix them in the ground, to keep the wine cool, or else they rested in a supporting tripod of either wood or metal.*

But perhaps one of the most extraordinary "finds"

* The author has in his possession an ancient Egyptian amphora exactly so shaped, *i.e.*, terminating in a sharp point. It is of hard clay, and holds about three pints; in height it measures just 12 inches.

ever fished up from the Goodwin Sands was a post chaise, wheels and all. How such an article could have got into the Downs is a mystery, unless, as is quite possible, it was a travelling carriage being conveyed to France, when the unfortunate ship carrying it was probably wrecked and sunk on the Sands.

Two peculiarly interesting relics of the Roman occupation of ancient Cantia were found in 1830, and although not found actually in the Downs, may be referred to here, because they were discovered on the shore *bounding* the Downs, and close to Sandown Castle. They consisted of two fine amphoræ, and were found to contain hundreds of Roman coins, some of silver and some of a peculiar combination of iron and copper. They appeared to belong to the reigns of all the Emperors, from Claudius, A.D. 43, to Honorius, A.D. 410, who had reigned during the Roman sway in Britain, and were possibly buried with some person of high rank, according to the usual custom of that age. Most of these valuable coins were ultimately recovered by Mr. Roalf, of Sandwich, a distinguished antiquary and collector.

Pritchard, the Kentish historian already quoted, referring to this discovery, observes that "finding coins of so late a date as the fourth century lead us to the conclusion that it was from the shores of Deal that some part, if not all, of the Roman army took their final departure from Britain, from its proximity to Belgia and Gaul:" a suggestion that in all probability is strictly correct, as this coast was the principal place, not only of debarkation, but of embarkation also for travellers proceeding to or from Gaul.

Proverbs and Sayings relating to the Goodwins and their Neighbourhood.

"*Let him set up shop on Goodwin Sands.*"

"This a piece of country wit; there being an equivoque in the word 'Goodwin,' which is a surname and also signifies gaining wealth," (Ray, p. 72.) Dr. Pegg adds some passages which help but little, chiefly from Somner ('Ports and Forts,' p. 21), who combats the current opinion that the Sands were caused by an inundation in 1097 (? '99), and proposes a later date. Mr. Hazlett explains the phrase as referring to "being shipwrecked," though it is somewhat difficult to see the connection. What is far more likely is that it is meant as a sort of sarcastic warning against indulging in foolish and impossible speculations, which can only end in failure and ruin.

"*Tenterden Steeple the cause of Goodwin Sands.*"

"This proverb is used when an absurd and ridiculous reason is given for anything in question, an account of the original whereof I find in one of Bishop Latimer's sermons." [Here follows the story already quoted,* of the wondrous old man who remembered so much.] "Thus far the Bishop" (Ray, p. 273). "From the old man's account we have the precise time of the beginning of this saying, viz., in Henry the Eighth's time, and also the precise time of the

* See *ante*, p. 26.

emergence of these Sands; whereby you may resolve Mr. Somner's doubts, and set Mr. Twyne, Mr. Lambarde, and others right in the matter." Here follows a quotation from Somner's 'Ports and Forts' (p. 25), which refers the formation of the Sands to a supposed inundation in the time of Henry I. Hazlett quotes the proverb in the following form:—

"*Of many people it hath oftentimes been said,*
That Tenterden Steeple Sandwich Haven hath decayed."

See Hazlett's 'English Proverbs,' p. 438; Lewis's 'History of Tenet,' p. 9; Sir Edward Dering's Works, p. 130.

"The petrifying waters of Tenterden Steeple, in Kent, for which it is no less famous than for being the cause of 'Goodwin Sands.'" (Dr. Plott's letter to Bishop Fell, 'Leland's Itinerary,' ii. p. 133.)

"*Take heed how ye build on Goodwin's Sands.*"

This is another proverb much of the same meaning as "Look before you leap," clearly signifying that caution and foresight should be carefully employed before any enterprise of importance is undertaken. The danger of building a house on a foundation of sand has been already forcibly illustrated in a parable so well known and celebrated that reference to it here is scarcely necessary.

"*As great as the Devil and the Earl of Kent.*"

This proverb is quoted by Swift in his 'Polite Conversations,' in the dialogue between Lady Smart and Lady Answerwell. It is possible that "the villainous

character given by history to the celebrated Godwine, Earl of Kent, in the time of Edward the Confessor, occasioned the proverb" (Scott's edition of Swift).

> "*Deal, Dover, and Harwich*
> *The Devil gave his daughter in marriage;*
> *And, by a codicil to his will,*
> *He added Helviot and the Brill.*"

This bit of rough and cutting satire may do equally well perhaps for many other seaports over and above those named.

> "*Deal savages, Canterbury parrots,*
> *Dover sharks, and Sandwich carrots.*"

This refers to gardening having been first used as a regular trade at Sandwich. "Canterbury parrots" may refer to the chattering and tale-bearing so common in small cities, and the very impolite and plain spoken allusions to Deal and Dover may have some reference to the odious practice of "wrecking" formerly carried on with such hearty gusto at both places.

"*Conscience was drowned in Sandwich Haven.*"

A story is told of a woman wanting a "groat's worth" of mackerel, and applied to a fisherman who told her to take as many as she would for her groat. She took such an unconscionable quantity, that, provoked by her unreasonable conduct, he called out, "Is that your conscience? Then I'll throw it in the sea;" and he thereupon threw the money into the water accordingly, and took the fish away from the woman. Hence the above saying.

"*Take heed how ye sware Godwine's Oath.*"

This is a saying suggested by the terrible retribution that, at least according to the story, overtook Earl Godwine, when he solemnly swore at the King's table what was supposed at the time to be a false oath, and met his death accordingly. (See Appendix No. 4.)

CHAPTER IV.

THE HOVELLERS.

The term "Hoveller"—Obscurity of its derivation—First establishment of a "Coast Guard" by Edward III.—Probable derivation of the name—The modern "Hoveller"—His work and duties—Care and skill exhibited on approaching a wreck in a storm—Difficulties in returning—Scanty rewards—False charges often brought against Hovellers—True character—Smuggling propensities of former days—Their great bravery and noble endurance.

The Ancient "Hobiler."

Although well known, perfectly understood, and in daily use in one part of the country, yet I venture to say that the above quaint-sounding title would be a meaningless term, "not understanded of the people," anywhere away from its native coasts; and I further venture to assert that a careful searcher in the learned folios of Johnson, Walker, or Nuttall will fail to find the noun substantive "hoveller," or the verb "to hovel"—as here understood—therein set forth, as pure English: and yet, to those who have been much about the coasts of East Kent, the words may be not altogether unfamiliar, though few may probably have taken the trouble to inquire the meaning of the term,

far less its origin, although its etymology has puzzled more than one learned antiquary.

The derivation of the term "hoveller," as applied to a boatman on these coasts, is certainly very obscure, and perhaps many will be inclined to say far too insignificant to take any trouble about. But several well read and most intelligent writers have entertained a different opinion, and have been at some pains to investigate the whole subject. Of these may be mentioned Philpot, in his 'Village Cantianum;' Davis, in his 'Perambulation of Kent;' Pritchard, in his 'History of Deal;' and the Rev. Charles Lane, sometime Rector of Upper Deal. From the researches of these gentlemen, it would appear that, from an ancient record of the period, King Edward III. appointed certain "gentlemen," probably—though we are not told so—the Barons of the Cinque Ports,* who were to undertake to patrol and guard the east and south-east coasts of Kent, at that period the great highway into England, especially from France. These gentlemen were each to furnish from the County Hundreds lying on or near the coast, a stated number of "men-at-arms and hobilers" ("homines ad arma et hobilers"), and these were to form a day watch, called the "Warden" ("homines ad vigilans diem"), as well as a night watch ("vigiliæ minutæ"), so that the patrolling would thus be constantly kept up. This, in all probability, is the first mention of anything like the establishment of a "Coast Guard," although their object was, of course, not to catch smugglers, but to give timely warning of the approach of a real enemy to our shores.

* See Appendix No. 13.

Hasted says: "The hobelers were a kind of Light-horse who rode about the country from place to place at night to gain intelligence as to the landing of boats or men . . . . The Swale once went round the Isle of Sheppey, as the Wantsum did round Thanet. A guard was set at the Isle of Grain at the entrance of the Swale in the time of Edward III. which was to consist of twelve men-at-arms and six *hobilers*."

The term "hobiler" is supposed to be derived from either the French word "hobil," a light quilted surcoat which was probably worn by these men over their defensive armour;* or, what is still more likely, from the old English word "hobbier" (hobby) a small stout horse such as might have been ridden by the mounted division, which was thus expressly described to show that the force, to be raised and kept up, was to consist not only of *foot* but of *horse* as well. Indeed, mounted men must have been absolutely necessary in the absence of any sort of post, or regular system of communication, to give immediate notice of the approach of danger by riding with all speed from one beacon, or station, to another, and so place the entire district, or coast, in a state of alarm and preparation: or, as quaintly expressed by Davis, an old Kentish writer, "to runne from becon to becon during the daye, to spreade the knowledge of the cominge of enemies, and to supply notice of the danger at hande."

A third and certainly not very likely origin of the name is founded on the droll tradition that these men, in order to be close to the scene of their duties along

* Just as the "Jackmen" were so called from their leather, steel-plated "jacks."

the coasts, lived in caves, or burrowed in *hovels* partly sunk underground, and probably so placed expressly to escape observation by vessels at sea. But the second suggestion is by far the most feasible;—and that, as the services of these ancient mounted Coast Guards gradually became unnecessary, the name still clung to these dwellers by the sea, and has, with the substitution of the "v" for the "b," descended to their sons—the "hovellers" of the present day.

Having shown the origin of the term, and the duties of the ancient "hobiler," we will now proceed to consider the work of the modern "hoveller" of the present day. The name, which is locally pronounced "huv'ler," has been made into the verb "to hovel," and the occupation is always spoken of as "hovelling."

The Modern "Hoveller."

The whole fraternity seem to be confined almost exclusively to the towns and villages on the east coast of Kent, for the excellent reason that these towns and villages are situated, as will be seen by reference to the Chart, within sight of the Goodwins, the Long Sand, the Margate Sands, and others; for it is round these Sands that the hovellers chiefly find their employment. It is, indeed, a very well known fact that many more lives would be annually sacrificed, and ships probably lost on these different shoals, but for the watchful care, skill, and daring so constantly and unflinchingly exhibited by the boatmen of East Kent to whom the term "hovellers" is now so commonly applied.

As far as external appearances go, these men, especially in fine summer weather, would seem to be an idle, lazy set of fellows, who do nothing all day but "loaf about," smoking, drinking, and gossiping; passing the time, apparently, pleasantly enough, as far as it goes, in the regular *dolce far niente* style of thorough useless idling, diversified by occasionally manning a capstan to haul up a returned boat, repainting their waterproofs, or overhauling their boat's sails, tackle, and gear.

In justice to these men, however, it is but fair to explain that, in the calm and soft days of summer—.

> "When glassy ocean hush'd, forgets to roar,
> And trembling murmurs on the sandy shore"—

there is little or nothing stirring in their peculiar line of business, for it must be remembered that they are neither fishermen, nor "pleasure" boatmen like those of Ramsgate and other watering places. No,—fair breezes and calm water have no charms for the Deal boatmen; what is intense enjoyment to the landsman, or the overworked visitor, just freed from the hot stuffy town to take his short and eagerly anticipated holiday, to the hoveller means loss of time, and consequently loss of money. They may say with Shakespere, readily enough:—

> 'War, war—no peace!—peace is to me a war!"

that is to say, the war of the elements is to them the opportunity of gain; and the greater and more terrible the storm, the greater and more likely their chances of a "good hovel," as the term goes to express a job that pays.

When, therefore, the wind changes and the weather begins to look "dirty," then the hovellers begin to stir themselves; for, be it remembered, that however idle they may outwardly appear, they are always on the alert, and their eyes are ever on the watch seaward. Not a ship passes up or down but is carefully scanned and noted; nothing, in fact, escapes their ceaseless vigilance. They might, indeed, with much truth, assume the motto "*Nunquam dormio.*"

Repeated consultations are now held on the beach, the Fitzroy barometers—several of which are erected for public use—are constantly referred to, and the horizon carefully swept by telescopes of all sizes, ages, and patterns, and the chances of a "job" on the Sands, or round to the "West-ard" (as the term is) are anxiously discussed; eager eyes notice the deepening gloom and the rising gale, and when the storm fairly bursts in all its fury, when the breakers are rolling on the Sands and dashing with intense violence on the beach, then these brave fellows, fearing neither winds nor waves, quickly man one or other of their finely built luggers, rigged with a huge lug sail, and steer direct for the Goodwins, about the very last place that any one would willingly seek during the prevalence of a heavy gale!

Unfortunately, however, it often happens that on reaching the Sands, and beating about their neighbourhood, these poor fellows will frequently return, after many hours of severe labour, extreme danger, and patient endurance, empty handed, having failed to meet with a vessel either in distress, or wanting a pilot or help of any kind.

But should an unlucky ship be driven on to the Sands, the moment her signals of distress are recognised, they are instantly responded to, not only by the hovellers, but by the life-boats; in fact, it is often a race in the cause of humanity as to who shall reach the wreck first. It sometimes happens, however, that when a very strong gale is blowing from the east, or north east, and a very heavy sea running on the beach, it is utterly impossible to launch any craft at all, either luggers or life-boats. One of the finest boats on Deal beach, the 'Albion,' was lost in launching in a terrific gale of wind, a few years ago. She had got an anchor and cable on board for a ship in the Downs, but in attempting to make a start, the boat was violently thrown aback, dashed upon the beach with such tremendous force that she was totally destroyed, her crew of twelve or fourteen men narrowly escaping death.

It is in such weather that the enormous utility of the Ramsgate Harbour is so apparent, for here the powerful steam-tug 'Aid' is always lying with her steam up, night and day, so as to be in readiness, at any moment, to take the life-boat 'Bradford' in tow, when they both go forth, through the darkness of the night, on their noble mission of mercy, to help and to save, into the raging seas and rolling breakers where nothing but a life-boat could live for five minutes together.

When at length the danger—first of launching the boat from the beach, and then of traversing the six miles of tempestuous sea lying between the shore and the Sands—is overcome, the real work, and by far the most dangerous part of the whole proceeding, may be said to be only just beginning, and that is the ap-

proaching the wreck and taking off the crew; and here it is that the remarkable skill taught by long, practical, and intelligent experience, exhibits itself in getting sufficiently near to take off the sufferers and yet to avoid a collision which would simply be certain and instant destruction to all on board the lugger. Instances have been known where a lugger has been so skilfully steered through the fierce boiling surf that she has actually run alongside a wreck sufficiently close for the men on board to jump into her as she rushed by —a dangerous and most ticklish proceeding for all parties concerned, both savers and saved.

The following extract from *Chambers's Journal* details with much truth the tactics now adopted:—

"When the danger is very great and the sea very high, the sail of the boat is lowered and the anchor dropped considerably to windward of the labouring ship. With consummate judgment and caution, only gained by very long experience, the cable is then paid out yard by yard and the heavy rolling sea is allowed to carry the boat little by little towards the vessel till she is almost alongside. And now not a second is to be lost, and those of the ship's crew who are able to do so instantly leap into the boat; for if another wave catches her in this position she must be dashed to pieces. Then indeed is a moment of intense anxiety and peril, and all hands haul upon the cable with might and main for dear life until the boat gradually draws away from the wreck. If, however, all are not rescued in the first attempt, the same perilous manœuvre has to be played perhaps several times in succession. Coolly and cautiously the hovellers handle their boat; the cable

is again veered out, and again she runs alongside the wreck, until at length the dangerous game is rewarded and all the crew have been at last got on board. Then all hands again haul in the cable, and the boat with the rescued crew ultimately drifts clear of the wreck." *

But now comes another desperate struggle, with tempest above and sea below, in the homeward voyage of the now perhaps overcrowded hoveller's boat. Six or seven dreary anxious miles have still to be traversed ere the shore is at last reached, and when the boat approaches the beach the greatest care and caution are still necessary to prevent any untoward accident happening; for it is often a dangerous and risky thing to beach an overcrowded boat when a very heavy sea is running. When at last, by God's providence, all are safely landed, every care is bestowed on the shipwrecked crew; food, clothing, and shelter being readily provided at the Sailors' Home where there is one, or by the kind and warm-hearted inhabitants where there is not, until the usual arrangements can be made with the proper authorities for forwarding the men to London or elsewhere.

Nothing can exceed the cool unflinching bravery of the hovellers as a rule. An instance of a hoveller hesitating for a moment when there is a chance of saving life has, we believe, *never been known*. The howling storm and the raging sea seem to have no terrors whatever for these brave fellows; in fact, rather the contrary—the greater the storm the more ready and willing they always are to face it. They are in truth

* *Chambers' Journal*, 1879.

not only a thoroughly fearless, but in many ways a most eminently useful set of men. They are constantly cruising round the Sands and down to the West'ard, giving information to ships, taking off pilots, and bringing home friends or letters from outward bound ships, taking out anchors or cables to ships needing such articles, or saving shipwrecked cargoes, for which salvage money is allowed. This latter, or any reward that may be gained for these services, is generally divided into fourteen shares; the boat takes three and a half shares for her owners, one half share is allowed for provisions which are supplied by the owners, and one share is given to each of the men—and little enough too, except in the case of a specially good "hovel," when a valuable ship or cargo may have been saved by the exertions of these men. An instance of this occurred a few years ago, when the crew of a Broadstairs lugger received £350 for bringing into Ramsgate an abandoned ship, which had stranded on the Sands but afterwards floated off, her crew having previously escaped; but these chances are few and far between, and the hoveller's energetic efforts, as already stated, only too often end in nothing.

Whenever opportunity allows, these men are generally excellent fishermen, and, as the wives frequently carry on some small trade or business on shore by keeping shops, or doing work of different kinds, the men and their families sometimes manage to live fairly well, as things go in the present day;—though, I regret to say, the reverse of this is only too often the case.

The hovellers, like most others in this world, have not escaped their share of unjust and undeserved abuse

and slander. The celebrated writer Daniel De Foe could not even let them alone, but, in his account of the "Great Storm of 1703," in about thirty wretched doggerel lines, supposed to be poetry, he libels the Deal-men in the grossest and foulest possible manner, charging them with visiting wrecks for the express purpose of saving whatever valuables they could for their own use, but leaving the crews to drown or perish! A more abominable and cruel falsehood it is impossible to conceive, for anybody who knows anything of the peculiar feelings of a Deal hoveller is well aware that his first thought, in all his daring and desperate expeditions to the Sands, is to save life and NOT property. When the crew of a wreck have all been safely landed, then, and not till then, does he think of rescuing what property he can, for which he will merely get his regular salvage allowance, often wholly inadequate, when the danger of the service is remembered. De Foe evidently knew nothing of the hovellers, but possibly wrote without investigation just what some spiteful enemy might have dictated to him.

It has also been stated more than once that the hovellers, the pilots, and even captains of ships, sometimes come to an understanding amongst themselves as to the award given to a boat's crew for bringing out an anchor and chain, through a heavy sea, to supply the place of one just previously "lost" by a ship whilst riding out a storm in the Downs; and it has even been darkly hinted that anchors and cables have occasionally been *purposely slipped* and lost, simply to secure a share in the award given for bringing off a new one. But, after all, as this is only talk, some real and sub-

stantial proof should be required before the story is, for a single moment, believed.*

Besides such slanders as these, the hovellers have frequently been charged with the vice of inveterate drunkenness, to which, it is said, the whole body are recklessly given up. But, from personal knowledge and much close observation during frequent visits in the neighbourhood, I am prepared to state that this is a most unjust and unfounded accusation. It is not for a moment pretended that they are all teetotallers—what seafaring race ever were? Or that intemperance is never seen among them: drinking, in fact, does go on, as a matter of course, sometimes perhaps more freely than it ought to do, for the hovellers are not angels any more than their neighbours. But to assert that they are *all* addicted to drink, and given up to the vices and miseries that follow in its train, is to assert a vile calumny entirely devoid of truth. It is scarcely a matter of wonder that these men, who are accustomed to lead a hard laborious life, often exposed to winds and waves, snow and rain, in an open boat, without deck or shelter, for hours together, when they come ashore with, perhaps, every stitch upon them wet through, and half frozen besides, should straightway indulge in that genuine sailor's comfort, a little grog; and who would blame them? Not I. So long as it is kept within reasonable and proper bounds and all excess avoided, no one, in reason, can possibly object. Taking the whole body all round, the hovellers are as honest, hard-working,

* An interesting article appeared on this subject in the *Daily Telegraph*, March 3rd, 1881, from the pen of a well-known nautical writer.

well-conducted, and respectable a set of men as are to be found anywhere round our coasts, and their heroic courage, in moments of appalling danger, shows them to be thorough "men of Kent" of the true old stock who, centuries ago, claimed "Invicta" for their motto.

It is, however, freely admitted that the hovellers were, formerly at least, the most inveterate of smugglers, if *that* can be considered a very serious blemish on their character, which, though I say it with great submission, I certainly do not, and for a very plain reason, namely—this class of simple half-educated men, who have not gone very deeply into the theories of Adam Smith or John Stuart Mill, or made fiscal questions their special study, can never be brought to understand how or why, having fairly and honestly bought and *paid* for goods in a foreign country, they are breaking any law, or committing any serious offence, in landing and selling their lawfully purchased property, because they have not paid a peculiarly obnoxious, and, to them, utterly unreasonable tax demanded by the Customs laws of Great Britain. This opinion, or feeling, has been repeatedly expressed to the writer, followed by the remark, "Had I *stolen* the goods, I must abide the consequences; but, having bought and paid for them, I don't see there is any crime in trying honestly to sell them again at a small profit." On pointing out to the speaker that it is considered by the Inland Revenue Commissioners a serious crime to evade the import duty established by the laws of our country, and that, moreover, in wealth-worshipping England offences against *property* are thought far more of than brutal crimes against the person, he frankly stated "he could not see

it," and refused altogether to admit my argument; and therefore finding I could produce no impression, and that it was impossible to convince him, I accordingly gave it up. Nor was this man, by any means, a solitary instance, for I have heard the same sentiment expressed over and over again in many different parts of the coast both south and east.*

During the early part of the present century a brisk trade was carried on in smuggling all along the east and south coasts, and many thousands of cargoes of silks, lace, or "tubs" have been "run" at convenient seasons on the shore between the North and South Foreland, good profits being the general result. We can all now afford to smile at the tales of wild daring and adventure told of this most excusable of all so-called "crimes," of which we find so plentiful a supply always ready to be retailed to wondering ears, or gaping listeners, at all sea-side places, because there is little or nothing of it now going on, from the fact that the "Coast Guard," as administered by naval officers under the Admiralty, since the year 1840, is far too intelligent, energetic, and watchful, both on sea or shore; a very different affair indeed to the old "Preventive Service" as formerly carried out by the Board of Customs, and which often proved worse than useless. †

One fact, however, must be insisted on, and that is, that if the hoveller was, in his day, an inveterate smuggler, he was not one whit worse than his neighbours in the adjoining counties, who merely

* See Appendix No. 14.

† See *Chambers' Journal* for 1882 for an entertaining account of smuggler's ingenuity. Article "Ingenious Smugglers."

followed the practices and instincts of their fathers before them. At any rate, if the modern hoveller possesses a few of the faults common to men of his station and profession, he certainly possesses, in an eminent degree, the virtue of patient endurance, and genuine humanity, coupled with the most unflinching and undaunted courage, where life is to be saved, however terrible the odds; for he will be as anxious for a place in the boat as if the race was to save, instead of to risk, his own life. Mr. Gilmore's words, referring to the life-boat men, are peculiarly applicable to the hovellers: "I claim a place for these men amidst the records of the bravest, grandest deeds of heroism of the age;" and the Count de Melford, quoted by the Rev. M. Walcott, pays them an equally graceful and equally truthful compliment, when he says: "Is there in this world anything grander than such intrepidity? A king in all his pomp and power, opening his assembled Parliament; a conqueror marching at the head of his army, preceded by his prisoners—are these comparable? Are these morally great, like these simple sailors? These who brave peril, fatigue, suffering, death itself—death of the most terrible kind—in order to save men who are *utter strangers to them!*" A compliment the perfect truth of which few, who really know the hovellers, will be inclined to deny.

The Rev. Charles Lane, too, sometime Rector of Upper Deal, who knew the race well, adds his ready and willing testimony to their undoubted courage: "Shall we not regard them . . . . as the children of the gallant men of Kent, by whom, in bygone days,

the Saxon flag was ever borne, as their customary privilege, on the battle-field; and who, now that their arm is no longer needed to resist the invader, still rival their forefathers' deeds in being foremost to do battle with the wind and the storm, and in bearing the brave old flag triumphant on the wave."

A speech of one of these gallant fellows made to the Rev. John Gilmore deserves to be here quoted as a fitting close to this chapter:—

"We have hard work before us, and we determine, by God's help, to do it, and we won't flinch. We hope to save others, and we feel that we shall do our best to do so; but, at the same time, we know that we may lose our own lives in making the attempt. We think of this sometimes as we are sitting in the boat, holding on against the wash of the seas, but when we once get to the wreck we *forget all about ourselves*, and only think how to save others!" A grand unselfish sentiment, and one, in its perfect truth, so peculiarly applicable to the Kentish hovellers.

CHAPTER V.

BEACONS AND BUOYS.

Great loss of life annually on the Sands—Difficulty of fixing a light or beacon—Great necessity of some kind of a "Warning Beacon"—First step taken by Trinity House end of 17th century—Impossibility of building on the Sands—Attempt given up—First lightship established in 1795—Two first "Warning Beacons" erected—Bush's suggested beacon—Admiral Bullock's first beacon, 1840—Simplicity of design—Dimensions—Run down in 1844—Re-erected same year—Disappeared in 1847—Bush's Lighthouse Beacon, 1841—Construction—Floating of the great caisson—Cast adrift and sunk—Raised—Rebuilt—Towed out to Sands in July, 1842—Run down in October, 1842—Again rebuilt in 1844—Description—"Living and sleeping" on the Goodwins—Faulty position of beacon—Site chosen by the Admiralty, not by Mr. Bush—Structure ultimately removed—Steward's Beacon, 1843—Failure—Walker's First Beacon, 1844—Removed 1850—Walker's Second Beacon, 1847—Washed away in two months—Trinity House Beacon, 1849—Stood for thirty years—Disappeared in 1879—The last of the Beacons.

Buoys.—Goodwin Buoys—Herbert's Patent Buoy—Immense one placed at South Sand Head—Courtney's Automatic or "Whistling" Buoy—Idea not new—Luminous Paint Buoys—Experiments—Run down in Harwich Harbour—Pintsch's Gas Buoy—Bells on Buoys—Legend of the Inch Cape Bell—The Bell Rock—Bells on Lighthouses—The new Eddystone.

BEACONS.

IT is certainly somewhat surprising that on a spot which, on the one hand, has always been found so useful as an anchorage ground, or harbour of refuge,

yet, on the other, for centuries, has been celebrated for its many and great dangers, no attempt appears to have been made, until comparatively modern times, to erect anything in any way to warn mariners of the presence and position of the Goodwin Sands. A modern writer observes with great truth: "On the entire coast of England there is probably no other locality so fatally connected with dismal stories of human suffering; and yet it was long found impossible to warn the sailor from it by any certain agency. Lighthouses could not be built on its shifting sands; and it seemed as if this one wild waste must, of a necessity, be abandoned to the pitiless winds, and not more compassionate seas. . . . The great loss of life annually occurring on our eastern coasts is universally known; and the Goodwin Sands in particular, being situated at the very portal through which passes the most active commerce in the world, are the scene of the most frequent and most fatal shipwrecks. There is no other spot, perhaps, on the face of the earth so well known for its dangers, and so much dreaded by seamen. Nor are its terrors diminished by popular opinion; on the contrary, it is commonly believed that the Goodwin Sands swallow up and engulf irrecoverably whatever is thrown upon them."*

This is perfectly true, and matters continued in this most unsatisfactory state until the latter end of the seventeenth century, when the Trinity House took the first step in the right direction, and determined—if at all possible—to erect a light, or beacon, of some kind or other, on the Goodwin Sands; and accordingly

* Davenport Adams.

directed a careful survey to be made by several persons who were supposed to possess great experience in such questions, as well as in the art of construction—for there were no professional "engineers" in those days—and these persons were at once employed to attempt the possibility of such an erection; but after penetrating with their boring tools to a considerable depth, the suction was so great that they became convinced that the same spongy, glutinous material continued as far as they could reach, and they therefore reluctantly came to the conclusion that, as no firm bottom was discovered on which a foundation could be laid, such a structure as a beacon, or a lighthouse, was altogether impracticable, and the attempt was abandoned in despair. As anything in the shape of a solid erection was, apparently, impossible for want of a firm resting-place, all further action seems to have been given up by the Trinity House, and the question of placing a beacon, or light, on the Goodwin Sands was suffered to rest by that Corporation for nearly one hundred years, that is until 1795, when the first Lightship was established on those shoals as detailed in Chapter VI., page 157.

The first idea of a "Warning Beacon"—that is to say, a visible erection to "warn" mariners of the presence of any dangerous rock or sandbank—appears to have been a flag-pole, or mast, having a bali, or a cask, stuck on the top, fixed into an old hulk filled with stones, which was sunk at the required spot. To keep this pole or mast more firmly in position stays were afterwards added; but still the plan failed, when the idea was adopted of stepping the pole in the centre of two cross timbers laid down in the form of a letter

X. So far so good. But the next best suggestion was to construct a beacon so as to save life, by erecting a "staging," or, as a sailor would say, a "top," resting on the mast or pole, so that if any men of a ship-wrecked crew were able to reach a beacon so constructed, they could climb into the top, and thereby save their lives until help arrived. This was the most perfect style of "Warning" or "Safety" beacon ever suggested, though who was the real originator of the idea does not seem to be known. It was, however, afterwards adopted, first by Mr. Bush. C.E. (who was most probably the inventor), and afterwards by Admiral (then Captain) Bullock, as will be found fully detailed further on.

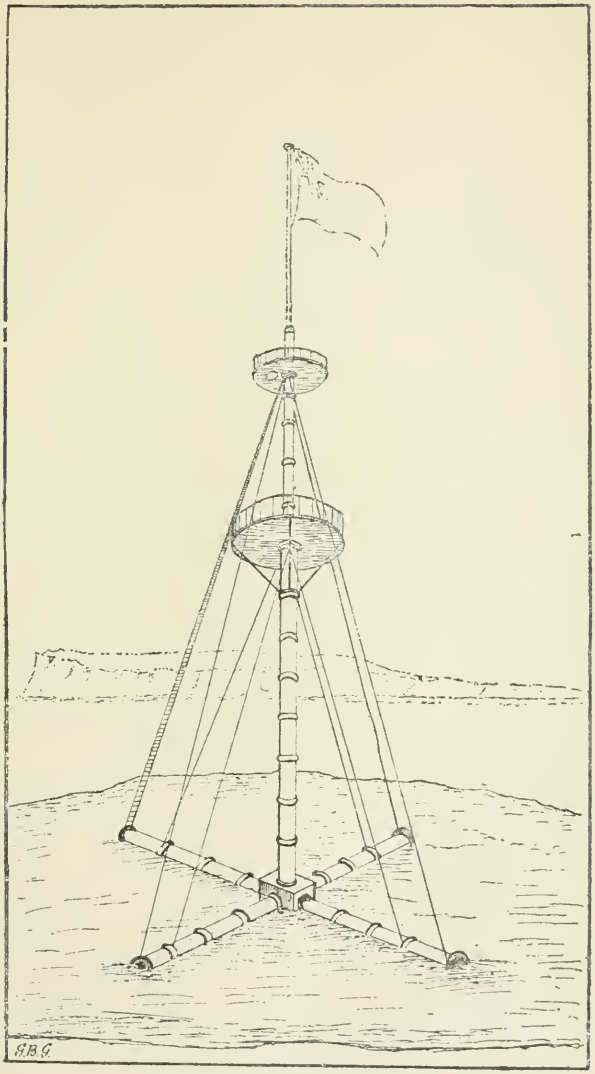
The first beacon ever seen on the Goodwin Sands was placed there very many years ago by the Trinity House, when, by their direction, a "Warning Beacon" was fixed in the Swatchway, on the eastern side of the Sand. This was constructed on the old plan just referred to, of sinking a vessel filled with stones, carrying a flag-pole with a ball at the top. This having at length been washed away, another beacon on the same plan, but on a larger scale, was placed on the easternmost projection of the Goodwin Sands, leading into Trinity Bay. This consisted of an old ship having a tall mast with a ball on the top, the mast being secured by chain guys to her stem and stern posts. She was towed out by the 'Vestal,' a Trinity House steamer, in charge of a committee of that Corporation, on the 24th May, 1841, and then scuttled and sunk near the edge of the dry sand at low water, on the south side of the Swatch. Sixty-four tons of

ballast were put into her, and she was filled up to her deck beams. But, notwithstanding all this care and preparation, and the apparent solidity of the whole structure, this beacon, like the last, was destroyed or washed away, in 1843, as notified by the short, but pithy and significant Trinity House formula usually employed to record such mishaps, that the beacon had simply "disappeared!"

Mr. Bush's suggested Beacon.

Before the date above mentioned—that is to say, in the year 1836—Mr. William Bush, C.E., of Deptford, submitted a plan and model to the Trinity House of a beacon which he proposed to erect on the Sands, or elsewhere if required, of which a sketch is given on the opposite page. This was to consist of lengths of iron tubing having their flanged ends riveted together, and so forming a tall mast. This was stepped in cross pieces of the same material, secured by chain shrouds and fitted with a couple of "tops" one above another, which were reached by means of ladders, and were evidently intended as "refuges" for any one who could climb into them. The weight was estimated at about 12 tons; it could be floated to its destination without trouble, and the cost was stated as not exceeding £300.

This design, though clearly practicable, was never carried out—at least on the Goodwins it never was—and whether or not this plan of Bush's suggested to Captain Bullock his own ingenious Refuge Beacon it is not perhaps worth while now to inquire. It is quite certain, however, that there was a very considerable



BUSH'S PROPOSED BEACON.

resemblance between the two; and that Bush's design was exhibited in 1836, four years before Captain Bullock's. Bullock, with the sagacity of a sailor, substituted an oak mast stepped in a stout oak platform for the elaborate iron tubing of Bush, and having but one "top" instead of two. But otherwise the general features were much the same, as will be seen at once by reference to the sketches of the two beacons.

Captain Bullock's Beacons, 1840–1844.

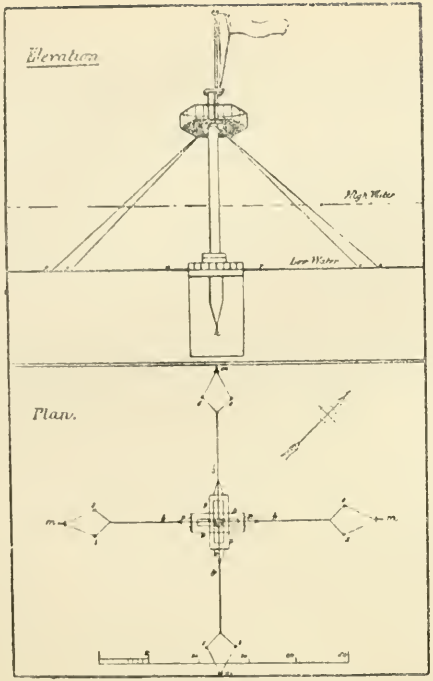
It was in the autumn of 1840 that Captain Bullock succeeded in erecting his first Refuge Beacon on the Goodwin Sands; and even supposing that this simple contrivance may be ultimately eclipsed by more durable or elaborate inventions, there can be no doubt whatever that the honour of having led the way to the erection of these useful structures is entirely due to the energy and resolution of this gentleman, who was, at the period when the beacon was put up, Captain of Her Majesty's steamer 'Boxer.' One thing is quite clear, and that is, that if the design of this beacon is remarkable for its simplicity, it is only one of many proofs afforded by the history of inventions that the simplest means is often the very last arrived at.

The means employed by Captain Bullock, although simple, proved in the end to be thoroughly effective in every way. His design was a mast of timber carrying a gallery or "top" on its summit, having above this a tall flagstaff on which a signal flag could be displayed. The entire structure is thus graphically described by Bullock himself:—"The mast, 40 feet high and 13

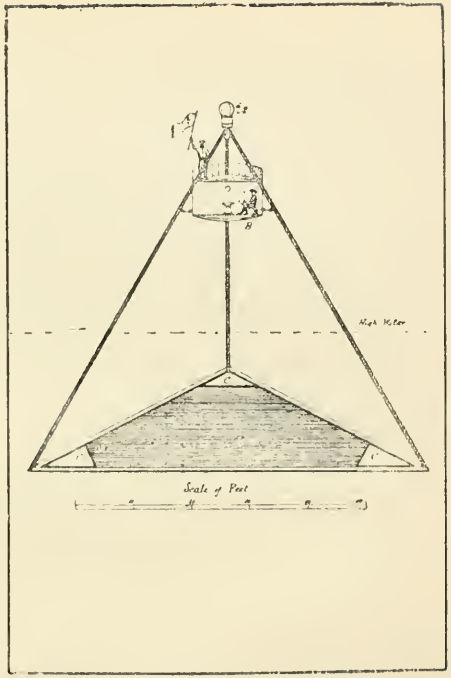
inches in diameter, is sunk in the sand through a strong frame of oak, in form of a cross firmly secured by four long bars of iron, and laden with several tons of ballast, chalk, &c. The mast is also sustained by 8 chain shrouds in pairs, and attached to iron piles 17 feet long, which are driven down close into the sand, and are backed by mushroom anchors to prevent them coming home towards the mast. On the shaft or mast is fitted a gallery capable of holding 30 or 40 persons, and never less than 16 feet above high-water mark.

"The mast also carries a light top-mast, on which a blue flag (always at hand) can be hoisted as a signal when aid is required from shore, but which is kept struck or down to give the whole the appearance of a wreck, thus answering the double purpose of a beacon or warning, and a place of refuge. Directions are given, and the words 'Hoist the flag,' in eight languages, placed round the interior of the top; and bread, water, and a small supply of spirits are left on the beacon properly protected from the weather. To the beacon is also appended a chain ladder of easy ascent, as well as cleats on the mast, and a large basket chair is also kept in readiness with ropes and blocks to succour the exhausted. The sides of the gallery are fitted with sail cloth reefed all round it, which could be unrolled and made fast to the flagstaff if required, the object being to protect with a temporary shelter any ship-wrecked sailors who might have reached the gallery. Blue was fixed upon for the colour of the flag, as being supposed to be visible at a great distance.

"As the Goodwin Sands are partly dry at low water to a great extent, and as vessels which strike on them



BULLOCK'S FIRST BEACON.



MARTIN'S PROPOSED LIGHTHOUSE.

seldom go to pieces in a single tide, the probability is that some of the wrecked crew would be enabled to reach the sand during the interval, and the safety beacon would then become their only refuge. It is well known that numbers of persons, having escaped from wrecks and gained the Sands in safety at low water, have been swept off by the returning tide before help could reach them; but had there been some kind of a refuge, they might possibly have been able to reach it, and thereby save their lives, and by hoisting the flag make signal to the shore for further assistance." *

Captain Bullock then gives the elevation and plan of the "Beacon" as seen on the opposite page, with the dimensions as follows:—

	Feet.	Inches.
Length of mast	40	—
Masthead	6	—
Sunk in sand	6	—
From sand-level to top	30	—
Topmast	15	—
Total to truck on topmast	45	—
Diameter of mast	—	13
Diameter of octagon top	9	—
Rails, high	3	—

"*Elevation.*

"The whole is supported by four pair of chain shrouds, leading to 8 iron stumps or piles (at SS) from 14 to 17 feet in the sand. Iron bars, 2 inches square (*r*), 4 of them to secure partners, and iron ballast with bags of shingle intended to be placed on top of all. Heel of mast in sand (*h*) shod with iron.

* Captain Bullock's Report.

"*Ground Plan.*

"Oak partners (*pp*) 10 feet long, 1 foot wide, and 6 inches thick. *rr*, 4 iron bars to secure partners, with 24 pigs of ballast weighing 3 tons 12 cwt. *ss*, 8 iron bars, 2 inches square, from 14 feet to 17 feet in sand. *bb*, 4 iron bars with span at each end to fix to *ss* and end of partners to prevent *ss* coming home. Distance from *ss* across to opposite *ss*, 60 feet. *mm*, 4 mushroom anchors." *

Captain Bullock concludes his description with the following most sensible and truthful remarks:—"If it be objected to that there is nothing in the mode of construction which holds out a promise of perpetuity, the answer is that it can be replaced at a trifling expense; and still further that it has actually withstood the storms of two winters (1840-41), one of them, the severest on record, for a long period. It is the first which has so far succeeded, a fact which alone entitles it to a favourable consideration. So long as it stands it holds out a chance to the shipwrecked, and if it falls it can easily be renewed;—at all events it has passed through severe trials, and exhibits at least a highly interesting experiment. If, in the course of time, as may be expected, it happily proves the means of saving life, it will then attract the attention due to it, and the example here set will be followed in all the great estuaries of the United Kingdom, and the numerous sand-banks round our shores will each have its Refuge."

Every one must warmly admire the singular and

* Captain Bullock's Report.

thoughtful ingenuity—so thoroughly characteristic of a sailor—exhibited throughout the whole of this erection, which was altogether unique in its way when it is remembered that this beacon served the double purpose of a warning of immediate danger, as well as a refuge for such as might be fortunate enough to gain its friendly and useful shelter.

This, the first "Refuge Beacon," was erected on Thursday, the 10th of September, 1840, under the personal direction of Captain Bullock, assisted by Captain Boys, Superintendent of the Royal Naval Store Yard at Deal,* and in the presence of a number of friends and visitors from Ramsgate, Dover, and Deal.

When all was completed and the mast fixed, the first person to go "aloft"—that is, to climb up into the gallery or "top"—was Lieutenant G. C. Boys, R.N., who, on reaching the summit, hoisted a "Union Jack" handkerchief which he happened to have in his pocket, and called for three hearty cheers for Captain Bullock, and Her Majesty the Queen. The indefatigable exertions of Captains Bullock and Boys, with Lieutenants Boys, Gull, and Bowes of the Royal Navy, and other officers and men engaged in this noble and philanthropic undertaking erected in the interests and for the benefit of humanity, were deserving of the warmest and highest praise, not only for the perseverance, courage, and determination evinced throughout, but for the disinterested self-sacrifice so often exhibited in many ways, not the least having been that these earnest workers

* This establishment has long since been given up, and the site is now built over. See *ante*, p. 49. "The Downs."

have frequently been compelled to carry on their operations, for several hours at a time, up to their knees in water and mud when the tide was rising.

The erection of this beacon—the first of its kind—may have been considered in the light of an experiment to demonstrate the problem whether or not human ingenuity and skill could overcome the many difficulties presented by the formidable Goodwins by small means and simple contrivances, or whether nothing will avail but vast erections of massive materials at almost fabulous cost. It has, however, been amply proved, by subsequent events, that simple contrivances are really the best; for this ingenious work of Bullock's bravely withstood the storms and tempests, the winds and waves of the Goodwin Sands for just four years, and was a complete success in every way, carrying out its purpose as a safety beacon, until the 6th of August, 1844, when it was seriously injured—run down, in fact—by the reprehensible carelessness of a Dutch galliot sailing up Channel.* This most untoward accident necessitated the entire re-erection of the work, which was accordingly again undertaken by Captain Bullock with such energy that it was completed by the end of September of the same year, 1844. This, the second, beacon was fixed on the same general principles as the first, but with an improvement in its base which, in the new erection, was composed of iron instead of wood, which consequently penetrated further into the sand than the former; and it was hoped that it would last for years to come. The foundation was covered with between 50 and 60 tons of concrete blocks, chalk, and shingle,

* See Appendix No. 15.

similar to that which was employed for the first beacon in 1840.

During the operation of setting up the new beacon observations were specially directed, with much curiosity and interest, to the state of the foundations of the original erection, which were found to have remained during the four years unmoved and unabsorbed, a fact which leads to the opinion that the tide, strong as it is on this spot, had had no visible effect upon this mass, except, apparently, to cause a great accumulation of sand round the spot, plainly illustrating the truth of Captain Vetch's ingenious theory for the reclaiming of the Goodwin Sands (referred to in Chapter IX.), that, by the operation of the tides and the sea, the sand would be continually accumulated around and within any contrivance, or erection, built up for the express purpose of catching and retaining it. The only fear seemed to be that the terrific force of the sea, especially when a heavy gale was blowing from the south or south-west, would destroy and disperse the shingle which covered the heavy blocks of the lower foundation, but little doubt was entertained that these latter would retain their position intact. It was therefore very gratifying to find that the foundations, instead of being injured, had actually been strengthened by the deposit of sand brought thither by the action of the waves.

An eye-witness of the new erection says: "The tide, apparently so strong, has no visible effect upon the mass, round which the sand has accumulated nearly 2 feet in height, and it now remains as the result of a most interesting and successful experiment. I have myself little fear for the heavy concrete blocks, which

constitute the base of the cone. It is, however, but an experiment, and the problem will probably be demonstrated that human skill and ingenuity *cannot* overcome the formidable Goodwins with small means, and that man cannot successfully wage 'a little war' with such a foe."

The new beacon firmly stood its ground uninjured for a period of nearly three years, when, to the regret of every one interested in the question, the usual short, but painfully significant, Trinity House Notice told all whom it might concern that in December, 1847, the beacon had disappeared!

Whether it was again "run down," or washed away by the overpowering winds and waves of a wintry gale, we shall, of course, never know. It is quite possible, however, that it may have been struck by a large piece of wreckage being driven against it. A heavy mass of broken timber lifted on the shoulders of a gigantic wave and hurled like an immense battering ram, with terrific force, with nothing whatever to check the full power of the blow, point blank upon the beacon, would make but short work of that, or any similar structure, if exposed to such a fearful assault carrying with it such vast weight and momentum. An attack from such an assailant would be utterly irresistible in far larger and stronger erections than Captain Bullock's, or indeed any other such beacon.

Mr. William Bush's First Lighthouse Beacon, 1841.

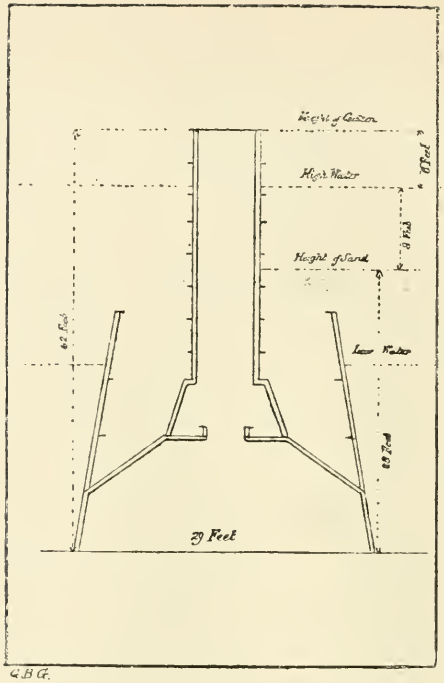
Perhaps one of the most remarkable of all the attempts to place a structure on the Goodwin Sands

was made by Mr. William Bush, a very well-known civil engineer, in the autumn of 1841. The singular, but most ingenious, erection designed by him, to serve the double purpose of a beacon and a lighthouse, was to be called by the somewhat fanciful name of the "Light for all Nations." We say "fanciful," for, after all, are not most lighthouses emphatically "lights for *all* nations:" Are they not intended to light the broad highway of the sea, and to protect from danger all mariners who may chance to sail within reach of their friendly rays, whoever those mariners may be, or to whatever nation they may happen to belong?

Mr. Bush appears to have possessed a bold inventive genius of no common order, combined with ideas of almost unlimited vastness. The erection of the Lighthouse Beacon in question was only a small part of a really grand design, originally conceived by him so far back as the year 1836, for the construction of a breakwater along the inner sand, so as to enclose Trinity Bay, and form it into a great Harbour of Refuge; and to carry out this design he endeavoured to establish a company in 1843, as stated in Chapter IX. The erection of the lighthouse beacon, about to be described, was first attempted in 1841, possibly by way of experiment in order to test his patent "Caisson," and the *North Calliper* was fixed upon as the spot on which it was to stand. It is perhaps hardly fair to Mr. Bush to say that the experiment failed, as, in fact, the caisson was destroyed more than once by unfortunate accidents before it was even half completed, as will be seen further on; and probably this very reason induced Mr. Bush to endeavour to repeat the experiment on

a much more extended scale, the funds required to be raised by a public company. As nothing, however, was ultimately done, the Caisson system—which was undoubtedly sound in principle—can scarcely be said to have ever had a really fair trial, at least so far as the Goodwins were concerned.

The design for the Lighthouse Beacon may be shortly described as follows:—*A vast caisson* of cast iron, somewhat conical in form, 30 feet in diameter at the base, was constructed of a series of plates with flanges at the joints three inches wide, and connected by half-inch wrought-iron bolts. Each tier of plates was 6 feet high, the lower tier 1½ inches thick, and the circumference was divided into 24 plates, as were also the courses above. Within the lower tier the working chamber was constructed, in which the process of excavation was to be carried on as in a diving-bell, and the sand which was dug out was discharged through a four-foot aperture, in the centre of its domed top, into the second chamber. The chamber above was fitted with air pumps, and other apparatus for regulating the supply of air to the workmen in the working chamber below; and from the second chamber arose a four-foot cylinder extending upwards through the centre of the caisson for the discharge of the sand. The height of the chamber above was to be regulated by the depth into the sand to which it might be necessary to proceed before the chalk was arrived at, the plates being added to the caisson as it gradually descended. By means of man-holes the two lower chambers communicated with each other as far as it was necessary for the supply of air to the workmen, and the discharge of the sand



SECTION OF BUSH'S IRON CAISSON.

CAISSONS.—SECTIONS.

during the process of excavation which was carried on from within, similar to the sinking of the shaft, or the kibt, of a well, the lower chamber acting, in this respect, as a diving-bell, by which the work was carried on under water, and through the cylinder at stated periods, and when external communication was cut off from the lower chamber, the sand would be discharged into the sea.

It was intended that when the caisson had reached a level bed, and the sand had all been excavated, that the interior was to have been filled up with solid masonry and concrete upon which foundation the Lighthouse was ultimately intended to have been erected. The section of the caisson is shown opposite.

Such was Mr. Bush's design, bold and most original in itself, and perhaps the only plan by which anything like a hold could be obtained on the solid chalk, provided the chalk could have been found at a reasonable depth below the loose shifting sand; but, unfortunately Sir J. H. Pelly's subsequent experiments showed that this really firm bottom was only found 78 feet below the surface!

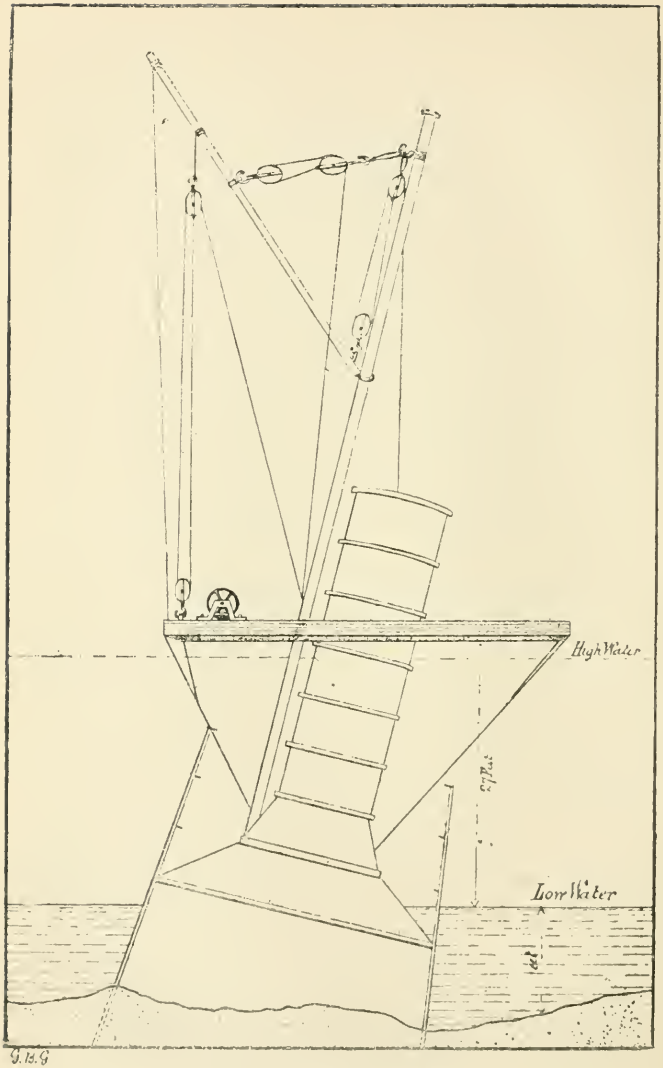
The first great caisson having been constructed at the Naval Yard, Deal, was launched on the 22nd October, 1841, and taken in tow by the 'Monkey' steam vessel; but she managed somehow to run aground, when the caisson was cast adrift near Sandown Castle. Captain Washington, however, in the 'Shearwater,' came to the rescue and towed the caisson to Deal pier,* where it sunk, and was afterwards nearly destroyed in a gale of wind. It was

* The old wooden pier then standing in front of the "Star and Garter" Hotel.

subsequently raised, taken to pieces, and reconstructed the following year at the Naval Yard. All being completed on the 28th July, 1842, at 10.30, the 'Monkey' succeeded in getting it afloat. She went off from the Naval Esplanade in front of the Naval Yard in fine style, maintaining a vertical position during her transit, although she made a great deal of water, so that the pumps had to be kept going nearly all the way out. At 5 o'clock, having reached the appointed place on the North Calliper, the tug cast off the tow rope, and the huge caisson was suffered to settle down, which she did very speedily, though a little out of the perpendicular, declining from north to south, about 2 feet in 24. It was, however, confidently hoped that the operation of sinking the foundation would soon rectify this. One of the large boats from the Naval Yard accompanied the caisson to the Sands, having on board plates for commencing the necessary work without an hour's loss of time.

On the 16th of August following, the great caisson had sunk below the Sands 16 feet, at low-water mark, and the whole portion was then 42 feet high, rising 9 feet above high water, and in the course of the following week it was expected and hoped that 10 feet more would be added to the structure, with the hope of speedily finding a foundation suitable for the solid base of such an erection.

The opposite sketch exhibits the apparatus of the *great caisson* on the 21st August, 1842, showing the mode in which the consecutive iron cylinders were placed over each other to form the building of the lighthouse, and showing also the settlement which has gradually



BUSH'S GREAT CAISSON.

taken place, as well as its inclined position, owing to the sand beneath it giving way over the foundation which was supposed to be solid chalk. This inclination, however, had been overcome by Mr. Bush by the 12th of September, and the caisson had descended 24 or 25 feet into the sand, or about 30 feet below low-water mark, the tide rising about 18 feet; and from various indications, combined with the general stability of the structure, it was presumed, and hoped, that it was, at last, really resting on the solid chalk.

From a minute and careful survey made about this time by Mr. Bush and Lieutenant Batt, R.N., it was found that the caisson had remained perfectly upright after having been subjected for many hours the previous day to the tremendous violence of a very heavy storm, which, apparently, had not produced the slightest visible effect upon the structure, beyond washing away a small timber staging, together with a small part of the side plates.

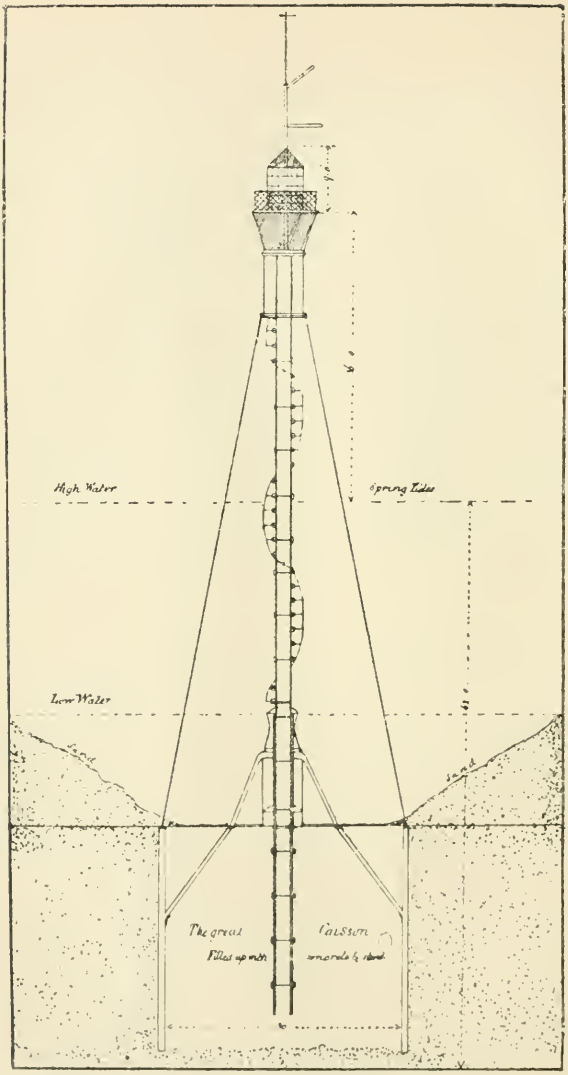
Up to the middle of October, 1842, all went well, the building operations had been executed with great rapidity, and without a mishap, and sanguine hopes were entertained that, at last, a solid structure would have been erected on the celebrated Goodwin Sands, which had for so long a period apparently defied all efforts to that very laudable end, even when originated by genius, guided by science, backed by ample resources, and carried out by brave and willing hearts with the most marvellous patience and perseverance. But Providence—whose ways indeed are, at times, inscrutable—had seemingly determined otherwise, and the whole of these elaborate works, upon which so much anxious

thought, as well as vast sums of money, had been expended, were utterly destroyed on the night of the 15th October, 1842. During that night a terrific storm sprang up, and an unfortunate vessel, believed to have been the 'Nancy,' an American timber ship, was driven full against the caisson, with such fearful violence that the ship was entirely wrecked, broken up in fact, and all hands on board must have perished; whilst the caisson itself was, by this most untoward accident, completely overthrown, and was supposed to have been utterly destroyed. Such, however, was not the case; the energy and resolution of Mr. Bush being quite equal to the occasion; and so, in spite of difficulties, disappointments, and mishaps, the reconstruction of the Lighthouse Beacon was again attempted, as will now be seen.

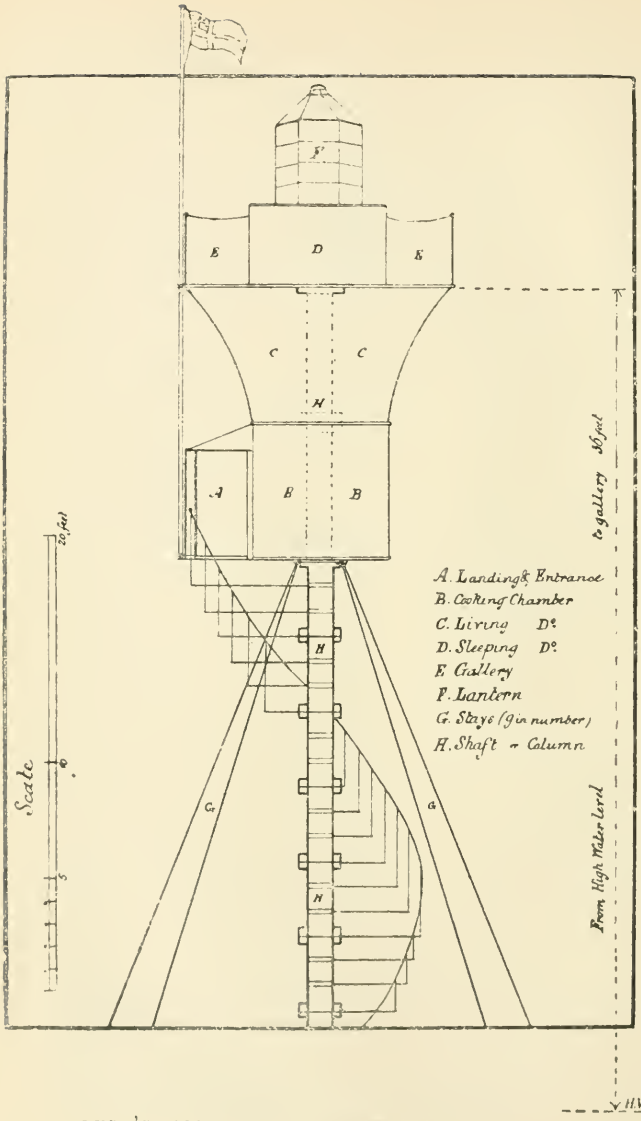
Mr. Bush's Second Lighthouse Beacon.

Notwithstanding the unfortunate accident of the 15th October, 1842, by which the great caisson was run down, the reconstruction of it was again undertaken on a smaller scale in 1844; but it was shortly afterwards again destroyed by the sea as far down as low-water mark, and therefore its reconstruction for the *third* time was now commenced, thanks to the untiring energy and determined resolution displayed by the engineer, whom nothing seemed to daunt, and no mishaps to discourage.

In January, 1845, Mr. Bush reported that the difficult work was then proceeding prosperously. The original caisson had been recovered, and was utilized



BUSH'S LIGHTHOUSE BEACON.



BUSH'S LIGHTHOUSE BEACON.—UPPER PART.

for the foundation of a shaft of smaller dimensions than the one first proposed. The height of the iron column intended to sustain the lighthouse was stated to be "now 41 feet above low-water mark, and will be raised 12 feet after Mr. Bush has accomplished his task of boring to ascertain the strata of the Goodwins." The base of the column and surroundings was 20 feet in diameter, and 24 feet were sunk in the sand. From this the shaft rose and sustained at the top an octagon chamber, with cooking apparatus, 6 feet in diameter and 6 feet high; over this was another octagon chamber 10 feet by 6 feet high; and above this again was an octagon platform 12 feet square, forming the gallery, having a sleeping chamber 6 feet by 6 feet in the centre, and over this chamber the lantern, 3 feet 6 inches high (see section, opposite page). The gallery was surrounded by a rope rail passing through the tops of upright rods. The gallery would hold about 30 persons, and the whole structure about 150.* The column was ascended by an *outside* stair of wood, secured to brackets cast on the shaft, and protected by a light iron bannister. This brought the visitor to a small covered landing projecting from the cooking chamber, and thus access was gained to the lowest chamber, communication with those above being effected by ladders.

The report further states that "the caisson was then supposed to rest on hard sandstone, and that the column was firmly fixed in the caisson and sustained in its perpendicular by iron plummer-blocks of great strength, and by 9 iron stays and braces which are

* Mr. Bush's evidence before a select committee on "Lighthouses," 1845.

attached to the side of the caisson and have a spread of 30 feet. The sea has no effect at all on the caisson, which, when filled with 300 or 400 tons of stone, concrete, and cement, will become firm rock. The lighthouse will be approached by an iron spiral stair going round the outside of the shaft, defended by an iron rail. The lantern will carry eight patent vesta lamps, which will present a pale blue light in order to distinguish it from all others. A telegraph will be fixed on the summit (as shown in the drawing), which will be 60 feet above high-water mark." After some further remarks the account concludes with the following amusing statement:—

"The successful issue of the work thus far was commemorated in a truly national manner, for on the 19th instant (*i.e.*, January, 1845) Mr. Bush and a party celebrated the raising of the Lighthouse Beacon by partaking of roast beef and plum-pudding on a platform laid on its summit!"

This "platform" would appear to have sustained a "roundhouse," in which Mr. Bush and his men lived for a time until the "octagon chambers" were completed. This is referred to in the following characteristic letter addressed by Mr. Bush to Mr. Clay, of "Lloyd's." The letter is without date, but, as it appeared in a periodical publication issued in January, 1845, it was probably written in December, 1844.

"I have the satisfaction to inform you that I and my workmen have taken possession of our residence in the 'roundhouse' built on the summit of the column for my new Light on the Goodwin, and it is my intention to reside here until I have succeeded in ascertaining

strata (*sic*) beneath the sand, should the weather continue favourable. That being done, I shall proceed to complete the Lighthouse by fixing the lantern.

"I think I may fairly state that another inhabited island is now added to Her Majesty's dominions, in the bowels of which are imbedded many treasures, and which will form a nucleus for batteries and fortifications, as for a Harbour of Refuge in Trinity Bay in the Downs; and when completed, be the key of the British Channel, and thus form a second Gibraltar.

"As so many unfounded reports have been in circulation respecting this undertaking, I will thank you to send this information to the London journals.

"I am, &c.,

(Signed) "WILLIAM BUSH.

"To Richard Clay, Esq., Lloyd's.

"P.S.—I have commenced boring, to ascertain the sub-strata of the Goodwin, and at 50 feet beneath the platform have found nothing but hard sand, nearly as solid as rock itself."

Any one reading this P.S. will be inclined to ask why did not Mr. Bush make his investigations in the first instance, *before* he commenced operations of any kind, either sinking caissons or otherwise. The builder generally carefully examines his foundation and ascertains its fitness for the structure it is to bear, before anything else is done in the way of building on it; at least that is generally the plan carried out by architects on shore.

When the "octagon chambers" were built and properly secured, the sides being constructed of 1½

inch deal boards, Mr. Bush, with his wife and son, actually resided there for some time in July, 1845, the lady possibly remaining a week or two, but Mr. Bush, his son, and his workmen continued there until the works were brought to a termination (see opposite sketch). During this time hundreds of visitors came out almost daily to see these bold adventurous spirits, in their elevated and novel home, who were so bravely fighting a battle with the elements in a cause so excellent and useful.

This is the first and only instance on record of any persons—but especially any lady—having actually lived and slept in any sort of structure erected on the Goodwin Sands, for the very sufficient reason that this is the first and only building or erection containing human habitations, which has ever been attempted on this perilous and dreary waste.

But these elaborate works, undertaken with such infinite care and indomitable courage and perseverance, were destined never to be completed, the Corporation of the Trinity House having been compelled, in July, 1845, to interfere, and to require "Mr. Bush to take down and remove the shaft altogether," in order to prevent the building being used as a lighthouse beacon, in consequence of its position having been found to be as badly chosen as could possibly be. It was unfortunately placed in the *middle* of the Sands, which would therefore have had the effect of leading vessels into danger, by inviting approach, instead of warning them off. So dangerous, indeed, to shipping was this structure that, in July, 1845, Captain Bullock reported to the Trinity House that he had prevented two foreign brigs from

running on the Sands, they having mistaken Mr. Bush's column, or lighthouse, for the Trinity Beacon on the north-east part of the Sands, and supposed, in passing it to the northward, that they would be well clear of all danger. Sir J. H. Pelly, Deputy Master of the Trinity House, in his evidence before the Parliamentary Committee on "Lighthouses," in June, 1845, described the site as "quite ridiculous where placed; it was a most dangerous structure, and ships approaching it must be wrecked on the Sands."

Mr. Bush always emphatically declared that it was the Admiralty (through Captain Beaufort, who actually selected the site) and not himself, who were solely responsible for the choice,* and complained that he was most unjustly treated in having been allowed to go so far with his undertaking, and then being ordered to desist; but, in real truth, Mr. Bush had no one to blame but himself in this particular. The Trinity Corporation *from the very first* had strongly objected to the whole scheme, and had never given him any sort of encouragement, nor any formal and legal permission to construct a caisson or to erect a light; but, on the contrary, at least ten months before the last named date, that is on the 24th September, 1844, the Corporation had served Mr. Bush with a formal legal notice, warning him that his proceedings were wholly unauthorised, and desiring him forthwith to desist, which the Trinity Corporation, under their several statutes, had undoubtedly full power to do; but, notwithstanding all this, Mr. Bush persisted, entirely on his own responsibility, giving no heed to the notices and

* See Appendix No. 16.

warnings addressed to him by the Corporation, until that body at length found themselves obliged to issue an order for the immediate removal of the lighthouse beacon. The Trinity Corporation had previously stated their opinion that it was not expedient to place lights *on* the Goodwins at all, but to moor lightships north, south, east, and west, *around* the Sands, so that they could be approached in dark foggy weather; which any light, standing actually *on* the sandbank, could not possibly be without incurring the greatest danger to vessels so approaching.

Mr. Bush, in his evidence before the Parliamentary Committee already mentioned, said that all these erections had been wholly at his own cost, and that he had spent, up to that time, five years of work, and £12,000 of his own private property, and that to complete the lighthouse would require at least £20,000 more! No one can read this declaration without feelings of the sincerest regret that so serious a loss should have been sustained by a man in every way so thoroughly public-spirited, and possessed of such a bold and original genius.

In consequence of the peremptory orders of the Corporation, all further operations were suspended and the column was at last partly taken down. In January, 1845, it was found to be leaning over to the south quite 4 feet out of the perpendicular; but, on a visit of the Trinity House Committee on the 9th June, 1849, at least 7 feet of the remains of the shaft still appeared above low water, and this having been pronounced "dangerous to boats crossing the Sands," it was subsequently removed but the great caisson, on which it

was founded is, we believe, still buried deep in the sand, where it was first placed, after having been rebuilt no less than three different times over.

It would be hardly fair to pronounce Mr. Bush's caisson system—at least so far as the Goodwins are concerned—as a failure, for the simple reason that it never had a really fair trial, the ingenious inventor and patentee having been pursued by every sort of ill-luck and misfortune, in the destruction by winds and waves of his several works, and the utter loss of his property; whilst the novel designs embodied in his peculiar plans and suggestions, so much in advance of his time, were not then appreciated because not fully understood. When at last he had succeeded in raising a column and lighthouse on a caisson foundation, he was obliged to remove it in consequence of the agent of the Admiralty having, in the first instance, selected a highly injudicious site, which proved worse than useless for lighthouse purposes, and so, as before stated, his invention never had a thorough and practical test. That his system was sound and perfectly correct in theory few, who are at all conversant with the subject, will be inclined to doubt.

This was the first and last attempt that has ever been made to erect a lighthouse, with a dwelling-place attached, on the Goodwin Sands; a fact so peculiarly interesting as to demand the minute and somewhat lengthy account which has been here given of it, and a circumstance with which Mr. Bush's name will be for ever historically and scientifically connected.

Mr. Steward's Single-pile Beacon, 1843.

Exactly one year after the destruction of Mr. Bush's first attempt to build the "Light for all nations," the next endeavour to erect a beacon appears to have been made by Mr. Steward, a civil engineer, in October, 1843. This gentleman was then well known for his new principle involved in the employment of what he denominated as "Ponderous-footed" piles for the construction of harbours of refuge, and it was on this same principle that the new beacon was proposed to be erected.

The structure was entirely of iron, cast by Messrs. Poole of Dover, and may be thus briefly described:—A single massive pile, rising from a cast-iron chamber, 6 feet 6 inches high by 4 feet square, which latter terminated in a solid point weighing 4 tons. Within this chamber was contained a socket which was strengthened by iron brackets. In this was fixed five feet of the circular shaft of the beacon, which was made of inch iron cast hollow, the diameter of the lower shaft being 7 inches, and the upper 6. The two portions of the beacon were united by a flange and core; and the entire height, from the top of the chamber to the ball or cage with which it was surmounted, was 27 feet. The cage or ball was an ellipse 6 feet by 4 feet in diameter, composed of round bars of wrought inch iron strongly secured to the shaft by a flange and core, constructed so as to form a most conspicuous warning beacon, and also to offer the least possible resistance to the action of the wind.

The beacon was to have been planted at the eastern

edge of the Goodwins, on the south side of the Swatchway leading into Trinity Bay, nearly on the site of the first beacon ever put up there on the old-fashioned principle already referred to. The sand here was said to be of a very hard and compact nature, so as to render the sinking to any depth no very easy task; but it was expected that, as the ponderous foot or base of the beacon would be inserted about 9 feet into the sand, the pressure from without of the sand upon its sides and top, in addition to its own weight which, when filled up with sand, was estimated at upwards of 6 tons, would secure its perpendicular position and stability. The firmness of the sand at that part of the Goodwins where the beacon was to have been placed, would, it was hoped, have been very favourable to its ultimate security.

Mr. Steward was fortunate in having the valuable assistance and co-operation of Captain Bullock, at that time in command of H.M.S. 'Tartarus.' Early in October, 1843, Captain Bullock succeeded—not without much difficulty—in fixing a buoy on the spot intended as the site for the new beacon, and immediately afterwards returned to Dover accompanied by a large lugger from the Naval Yard at Deal, which was to take off the beacon in tow of the 'Tartarus.' When, however, half of the shaft with the ponderous foot was lowered into the lugger by the Ordnance crane, it was found that the boat was wholly unequal to the weight of this part of the beacon, on account of the position in which it was necessary to place it. It was then determined to procure the services of a 'chain lighter' from Sheerness Dockyard, and the 'Tartarus'

steamed away for this purpose. But in consequence of the strong winds and heavy stormy weather which prevailed at this period (October, 1843) it was found impossible to plant the beacon in its place on the Sands, even with the assistance of the chain lighter; and the Admiralty therefore came to the conclusion that the season was too far advanced to make the attempt with safety, and it was ultimately determined that nothing further should be done until the next spring.

It was not, however, until the 14th of the following September (1844), owing to many unlooked-for delays on the part of the inventor, that this singular structure appears to have been towed out to its destination by the Trinity House steamer 'Beacon' under the direction of Captain Bullock, and planted on the site intended for it. But unfortunately, whether from faulty construction, or want of sufficient ballasting, it immediately fell over, and although it was afterwards carefully stayed it fell over again; the result being, if we are to understand Captain Bullock's report, that it refused to stand up. Being therefore useless it was ultimately removed.

Upon the application of Mr. Steward, the Trinity Corporation very courteously awarded him the sum of £50—the actual cost of manufacturing the beacon.

Mr. James Walker's First Beacon, 1844.

In the year 1844 the Trinity House, after much careful consideration of the subject, appear to have decided on the use of fixed erections in the shape of "pile" or "mast" beacons instead of floating buoys,

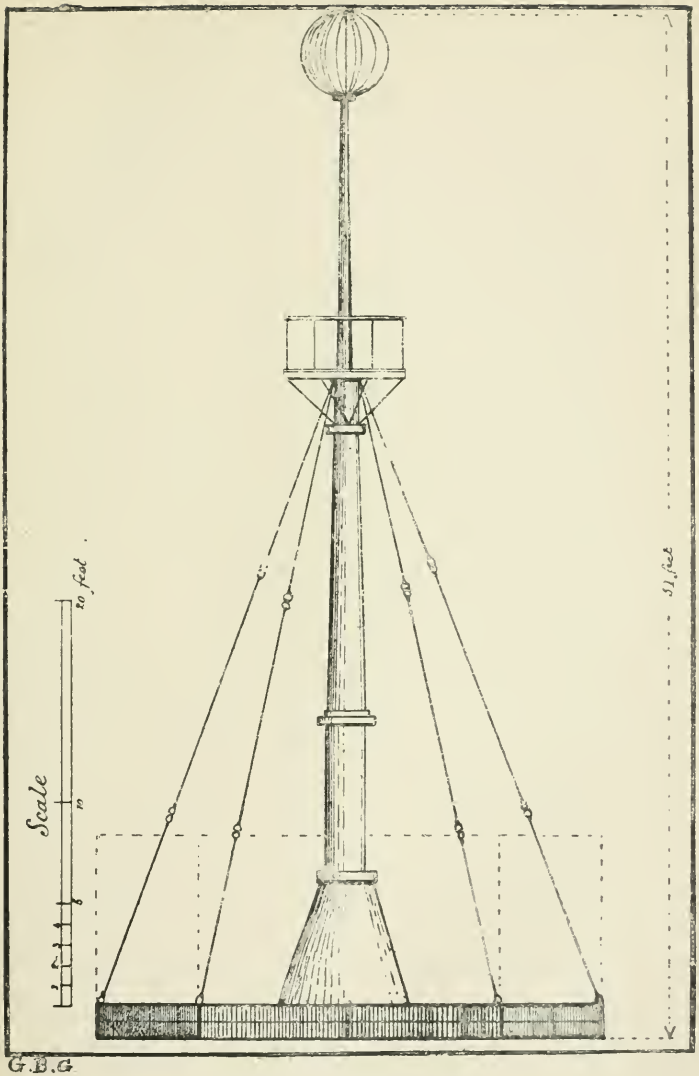
which it was thought possible these structures might altogether supersede; and there can be little doubt —had it been possible to fix them securely—that these tall beacons, placed on or around such dangerous banks as the Goodwin Sands, would have been far more serviceable in every way than mere floating buoys; although, on the other hand, buoys can be placed in many positions where it would be very difficult to fix piles of any kind, in consequence of the depth of the water; as, for instance, on the north-west and south-west of the Goodwins, where some of the largest buoys are moored in water from 64 to 80 feet deep.

The Trinity House therefore, after consulting their engineer, Mr. James Walker, determined to erect, as an experiment, a new warning beacon on the Swatchway. The design of this was doubtless suggested by the first one constructed by Captain Bullock, although larger and far more massive in every way, and consisting entirely of iron, but otherwise very much the same kind of erection, and intended, like the first, to serve the two-fold purpose of a beacon and a place of refuge for any shipwrecked men who might be fortunate enough to reach it. The structure represented a strong iron mast or column, 40 feet high (the total height from platform to top was 51 feet), based on a hexagonal platform of solid masonry upwards of 20 feet in diameter. The foot of the pillar was cone-shaped and tapered upwards to the extent of 6 or 8 feet. About the middle of the column was fixed a platform resembling a ship's top, surrounded by an iron railing and capable of holding perhaps a dozen persons, and in the summit was an iron basket-shaped cage, something like a

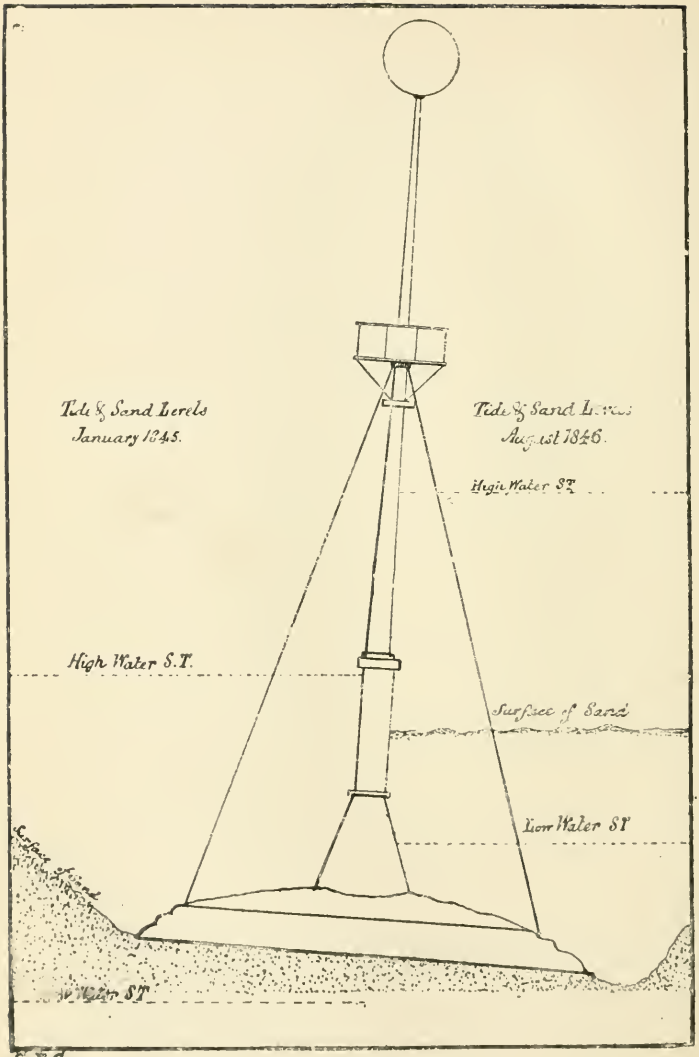
balloon, constructed to contain a like number of persons. The column was tied down to the stonework by iron stays, and on it were fixed steps by which it could readily be ascended. The whole of the unwieldy machine was enclosed in a huge timber vessel, very like a brewer's vat, in which it was built, for the purpose of floating it to its station on the Sands. The sides of this wooden building were so constructed as to admit of their removal on the final settling down of the beacon, but the bottom would, of course, remain under the masonry. The cost of this beacon was altogether about £1219. The outline drawing on the opposite page will give an idea of its appearance.

This original combination of iron and masonry, on completion, was towed out of Dover Harbour by the Trinity Buoy steam yacht, on the 25th of June, 1844, but the sea was running so high that it was found impossible to plant the beacon that day. The attempt was therefore given up, and the beacon taken into Ramsgate harbour to await the approach of fairer weather. At length, on the 6th of July following, it was again taken out and towed to its destination, when it was successfully sunk by Captains Weller and Bax in its appointed position in the Swatchway, some distance from the spot where Captain Bullock's first beacon was at that date still standing intact, just two months before it was run down and destroyed by the Dutch galliot, to be ultimately replaced, however, by a second in the September following as already mentioned.

This last beacon of Walker's appears to have succeeded admirably well, and stood its ground, braving both winds and tides for six years, until it was, in the



WALKER'S FIRST BEACON.



WALKER'S FIRST BEACON.—SECOND POSITION IN 1846.

year 1850, removed by order of the Trinity House for the following very remarkable reason:—

In the year 1845 Captain Bullock, after a special survey and examination of the foot by divers, reported that the north-east sand was driven to the westward between 400 and 500 feet since the last year, and that in consequence this warning beacon, which had been placed only the previous year in the Swatchway 150 feet *within* low-water mark, and 3 feet 6 inches above low-water level, was then standing in 6 feet of water, and 300 feet *without* the then present low-water line. This singular change of levels was attributed to an excess of 62 days of easterly winds as compared with the two previous years.

In the following year (1846) Mr. Walker made a special survey, when the beacon was found to have shifted its base, and was leaning over towards the north 3 feet in 41 out of the perpendicular (see opposite sketch). During the heavy gales of the preceding year the beacon appears to *have gone down* with the sand; but as the sand, at the period of the survey, was much higher than when the beacon was first erected, and the beacon, not having the facility of rising as the sand did, was then actually 7 or 8 feet lower than it was in January, 1845, and was in fact buried 14 feet deep down in the sand. Thus the beacon went down necessarily as the sand went down; but, though it did not sink into the sand, it did not rise from its depressed position. The sand-level was at the same time found to be 5 or 6 feet above low-water mark, and the consequence of this was that, at high-water, the beacon was, comparatively speaking, only a few feet above the

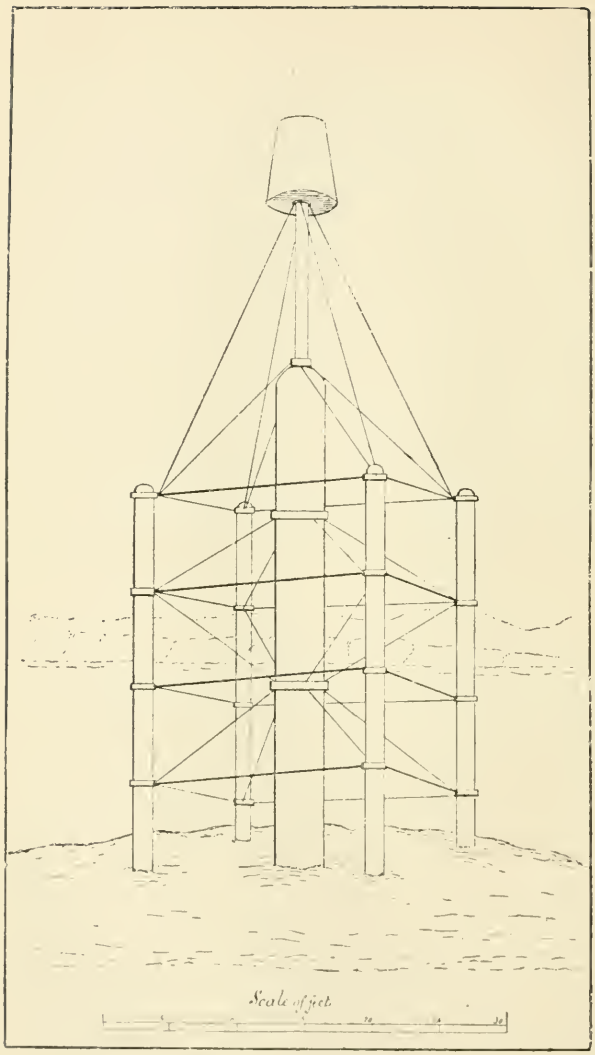
sea, and therefore too low to be of much use as a warning beacon. Nevertheless it remained standing for five years after Captain Bullock's report, but no alteration appearing in the change of levels except for the worse, the beacon thus became unfortunately useless, and the Trinity Board very reluctantly directed its removal in July, 1850. During the operation the ponderous iron shaft gave way near the platform or base, and was at once secured to the davits of the large lighter brought out for that purpose, the platform remaining in the sand. A glance at the outline sketch will show the position of the structure, and the tide and sand levels as they were in January, 1845, on the left of the sketch, and in August, 1846, on the right.

The place of this beacon was marked by a huge Nun-buoy bearing a staff and diamond top.

Mr. James Walker's Second Beacon, 1847.

Profiting by past experience the Corporation of the Trinity House determined in 1847 to erect another beacon on a totally different principle and on another part of the Sands, and for this purpose the Board adopted Dr. Potts' new system of sinking iron piles or tubes by air pressure which was just then coming into use.

The system was simple enough. A pile was placed perpendicularly on the sand, the top secured by an air-tight cap in communication with a powerful air-pump, by means of which the air was exhausted from the tube, which thereupon immediately descended by atmospheric pressure. When the top of this tube was



WALKER'S SECOND BEACON.

level with the sand, operations were stopped, the cap removed, a fresh length of pipe affixed and secured, and the same course was again pursued and so continued until the required depth was reached.*

The Trinity House proved the value of this invention by an experiment tried on the Goodwins on the 16th of July, 1845, by sinking a hollow pipe, 30 inches in diameter, 33½ feet down into the sand in the short space of 5½ hours, showing that any number of piles or caissons might be sunk in this way, and the interior filled up with masonry or concrete so as to form the foundation of a lighthouse or beacon.

Accordingly, in August, 1847, a beacon was erected on the South Calliper under the direction of Mr. James Walker, assisted by Captain Bullock, making the third which the latter had constructed, or superintended, on the Goodwin Sands. This was a hollow column or mast of cast iron, 2 feet 6 inches in diameter, put together 10 and 20 feet lengths, and inserted 31 feet 6 inches in the sand by means of Dr. Potts' atmospheric pressure system just referred to. This column was surrounded by four other columns of 15 inches in diameter, the whole being bolted together laterally and diagonally with the central column and with each other by means of wrought iron rods and clips secured by screws and wedges. The centre column rose 37 feet 6 inches from the sand, and the cage at the top was 18 feet 6 inches above the cap. The column was also connected with the four small tubes by iron stays, and the whole structure, with the cage, being just 56 feet high above the sand level. This cage, like the ship's

* See Appendix No. 1.

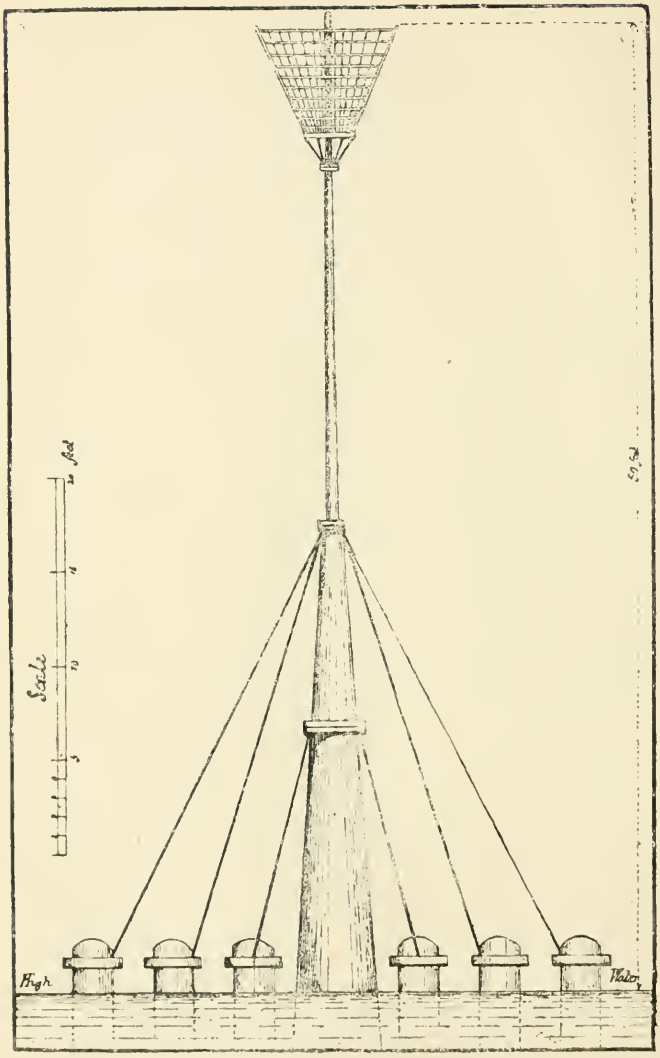
"top" in Captain Bullock's first two beacons, was intended as a refuge, and was reached by means of steps.

This elaborate and scientific structure, which promised so much for stability and general utility, so strongly built and so carefully put together, with its "tie rods, screws, clips, and wedges," and moreover "sunk 31 feet 6 inches in the sand," was washed away in *less than two months* from the date of its erection, namely, in the great gale of the 23rd October, 1847, as notified by the usual Trinity House notice to the effect that the beacon had "disappeared." It was seen perfect in the morning of the day named; a few hours afterwards not a vestige of its foundation was even discernible! It would appear to have been overthrown by the violence of winds and waves, and to have sunk in the Sands in an oblique position, entirely out of the perpendicular. In 1849 and '50 attempts were made to raise it or remove it, with partial success. It is quite possible that the cylinders were not carried down a sufficient depth, and so, having but little real hold in the soft sand, were easily overthrown.

It should never be forgotten that whilst this eminently scientific structure, which had cost a very considerable sum of money, had borne the storms and waves of the Goodwins for only two months, Captain Bullock's original, and most simple, design of the ship's mast and shrouds had firmly stood its ground for a period of seven years.

The Trinity Beacon, 1849.

A peculiar interest attaches to this warning beacon,



THE LAST BEACON.

not only because it was the last that was ever erected on these dangerous sandbanks, but because it bid defiance to storms and waves for the long period of thirty years.

It was erected in August, 1849, near the inner edge of the eastern portion of the Goodwins, under the superintendence of Captain Vinten, one of the Elder Brethren of the Trinity House. It was, in general design, similar to the last, a central cylinder with smaller supporting cylinders, only that these latter were more in number, and appeared to have been sunk very much deeper into the sand. They were all strongly braced together with tie-rods and clips. The main cylinder was said to have penetrated the sand to the immense depth of 72 feet, thereby reaching the solid chalk, and thus establishing a firm and holding foundation, hence its durability for so many years. It was, like the last, fitted with a cage, but of different form, at the summit, just 50 feet above the sand, and provided with ladder irons by which it could be easily reached from below. As 72 feet were buried in the sand the central column must have been of the prodigious length of 122 feet, affording an excellent illustration of the great utility of Dr. Potts' process of sinking hollow iron piles which has been so often referred to in the preceding pages.

This warning beacon held its ground intact until the year 1879, when it was overthrown in the great storm which occurred in the winter of that year; and thus disappeared the last beacon that ever raised its warning head on the treacherous Goodwin Sands.

It has never been replaced, and there is now con-

sequently no beacon at all on any part of the Sands, as it is thought that the four lightships, and the nine large buoys—so placed that they surround the entire area of the Sands—will afford sufficient protection and warning to mariners both by day and by night.

The reader will have noticed that each of the warning beacons, previously described, was fitted with a "top," or "cage," which could be reached by ladders, or step irons, in order to enable any shipwrecked persons, who might be fortunate enough to gain the sand, to ascend into these places of refuge. The design of such a gallery was, apparently, first suggested by the model of a proposed Safety Beacon submitted to the Trinity Corporation by Mr. Bush, so far back as 1836 (see *ante*, p. 112). This plan was followed by Captain Bullock, and by the designers of all the other warning beacons that were subsequently erected on the Goodwins:—But it is perhaps worthy of remark that these "refuges" were never really used, no shipwrecked person having ever been known to have got up into any one of them. The utility of their intention was, however, beyond all question, because if a castaway found himself stranded on the sand at low water, he would, unless speedily rescued, be inevitably drowned by the rising tide,* whereas, if able to gain one of these elevated refuges, he would most certainly be thereby saved from immediate death, and could retain his position in perfect safety until he was seen, and taken off, by either a passing ship or a hovelling boat.

* A most melancholy case of this kind happened a few years ago, which will be found fully detailed in Appendix No. 18.

TABLE SHOWING THE SEVERAL BEACONS WHICH HAVE BEEN ERECTED ON THE GOODWIN SANDS.

Date of erection.	By whom erected.	Where erected.	Description.	Material.	Height.	Disappeared.	Period of duration.
					feet.		
1820 (?)	Trinity House	Swatch	An old hulk filled with stones, carrying a flag-staff and ball, and sunk in the sand . . .	Wood	..		
1841. 24 May	Ditto	Ditto	The same plan, but larger; 64 tons of ballast and tall mast	Ditto	..	21 Feb., 1843	2 years.
1840. 10 Sept.	Capt. Bullock, R.N.	Inside Eastern edge.	A mast with gallery, or "top," reached by ladders.	Ditto	45	Run down, 6 Aug., 1844	4 years.
1841. 28 Sept.	Ditto	Ditto	The same re-built, with improvements . . .	Ditto Iron base	45	Dec., 1847	3 years.
1841. 22 Oct.	W. Bush, C.E.	North Calliper	Lighthouse-beacon . .	Iron	42	Ran aground same day. Re-built	
1842. 28 July	Ditto	Ditto	The same, partly re-built .	Ditto	42	Run down, 15 Oct., 1842	3 months.
1844. June	Ditto	Ditto	Again re-built, on smaller scale, with living rooms and lantern on summit .	Ditto	53	Removed in 1845-6	2 years.
1844. 14 Sept.	J. Steward, C.E.	South side of Swatch Way	"Ponderous-footed" single pile	Ditto	27	Removed	About 3 weeks.
1844. 25 June and 6 July	J. Walker, C.E.	Swatch	Mast with gallery reached by step-irons	Ditto	51	Removed in July, 1850	6 years.
1847. Aug.	Ditto	South Calliper	Centre column, surrounded by four smaller, all braced together	Ditto	56	23 Oct., 1847	2 months.
1849. Aug.	Capt. Vinten, Trinity House.	Inner side of Eastern edge	Similar to last, but sunk in sand 72 feet	Ditto	50	Dec., 1879	30 years.

Buoys.

As lighthouses and beacons are, as a general rule, fixed structures, so, on the other hand, lightships and buoys are always floating bodies secured to the spot they are intended to guard by anchors, sinkers, and mooring chains; and, without any doubt, the next best thing to a lightship is a buoy placed in a proper position to act as a "warning beacon," and to give notice, to all comers, to avoid the dangerous ground which it so clearly indicates. It is almost needless to say that such a region as the Goodwin Sands, in addition to the four lightships, is most carefully buoyed on all sides in order to mark distinctly the shape and boundary of the sands, so that navigators, who study and understand their charts properly, ought never to be at a loss as to the exact position of these shoals.

No less than nine of these useful machines stand like sentinels, on every side, some of gigantic size, and moored in water ranging from 24 to 78 feet in depth. Their different positions may be described as follows:—

Three on the north, namely, the "North-west Goodwin," a black buoy; the "Goodwin Knoll," a black buoy; and the "North-east Goodwin," a whistling buoy, black and white stripes. Two on the east, the "East Goodwin," a chequered buoy with St. George's cross; and the "South-east Goodwin," a black and white striped buoy. Two on the south, the "South Goodwin," a chequered buoy with cage; and the "South-west

Goodwin," a black buoy. And two on the west, the "Bunt Head," a black buoy; and the "North-west Bunt," a black buoy.

It may interest many of our practical readers to know that the whole of these are of iron. Three of them, in the most exposed positions, are 17 feet high, secured by from 45 to 75 fathoms of chain cable, and attached to 30 and 40 cwt. sinkers, in from 11 to 78 feet of water; the others range from 10 feet 10 inches to 13 feet 6 inches, and are moored in water from 24 feet to 64 feet in depth. The vast utility of these monitors —these finger-posts of the trackless deep—as a warning to mariners to beware of these dangerous sandbanks, cannot be too highly estimated. Without these directing buoys by day, and the lightships by night, the navigation of such perilous waters would be little more than a desperate game of hazard, ending, only too frequently, in wreck and disaster of every kind; but, with them, the road is rendered so plain and direct that, saving adverse and tempestuous weather, the steering, with proper knowledge and skill, becomes almost a matter of certainty.

Herbert's Buoy.

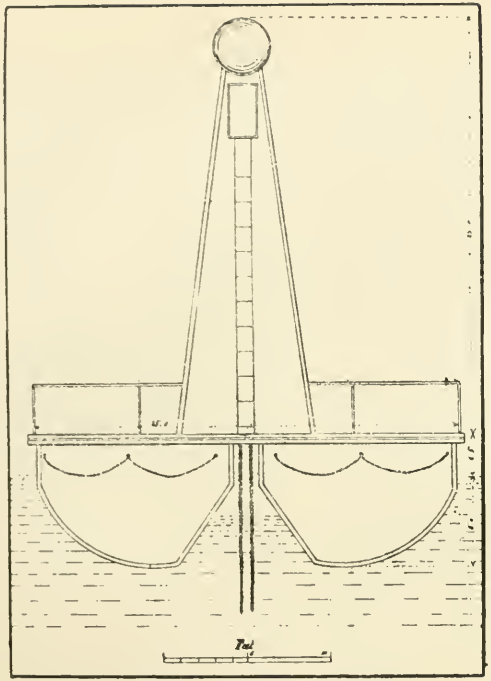
In the year 1853, Mr. George Herbert, of the Trinity House, invented and patented a new kind of buoy, the shape of which will be readily understood by reference to the annexed outline figure. Mr. Herbert, in his work, 'On the Construction of Floating Bodies,' says, speaking of his new principle:—

"The principle is to construct floating bodies, not intended for locomotion, so that they shall be moored from the centre of gravity, which, by a due distribution of weight, is made co-incident with the centre of the plane of flotation. In order to attain this consideration the bottom of the floating body is hollowed out, and raised up, so as to form a hollow cone, to the apex of which the mooring chain is attached. This plan has proved a great success in many buoys which have been so constructed, and they have always kept in an upright position even in heavy gales."

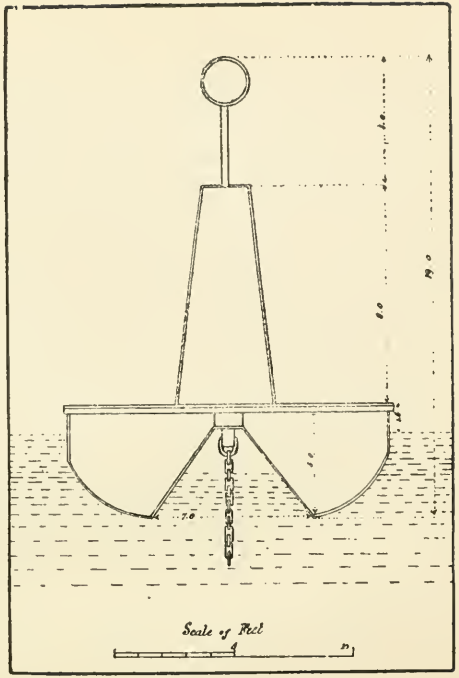
It is quite certain that the tide has no power over a buoy so constructed to force it out of the perpendicular by any haulage upon it by the mooring chains, or otherwise; indeed the strongest tide has no effect in causing it to deviate from its upright position; for, whatever tendency there may be to produce a lean over by the tide pressing upon any side of it, this is directly counterbalanced by the pressure of the same tide upon the farther, or opposite side of the hollow cone at the bottom, so that one force neutralizes the other, and the buoy remains upright.

There can be no question of the correctness of this principle of mooring stationary floating bodies from the centre of gravity, or little doubt that the more distant the mooring is from the centre of gravity, the less steady, and the less secure is that floating body.

Mr. Herbert, in the following year, altered and extended his original design, as will be seen in the opposite sketch; and a buoy of this form was, three years afterwards (*i.e.*, in 1857) placed in the Queen's



HERBERT'S "BUOY BEACON."



HERBERT'S BUOY.

Channel, Liverpool, as an experiment, and was known as the "Fair Way Buoy." Its merits and utility were fully attested in a letter or report, addressed to the Trinity Board, by Lieutenant Murray Parks, R.N., at that period Marine Surveyor to the Port of Liverpool.

The same general design, but greatly enlarged and improved, was carried out in the construction of a buoy or beacon of unusual dimensions, which was placed, by order of the Trinity Board, near the South Sand Head of the Goodwin Sands, in October, 1854, intended also as an experiment. This fine buoy-beacon was 25 feet in diameter at its level, or "deck," and from this rose a sort of tower 25 feet high, carrying a ball 3 feet 6 inches in diameter. Plate iron was used, and the buoy was constructed in compartments. The upper part of the tower was fitted with a door opening into a chamber to which access was gained by ladder irons. In this chamber was a small supply of biscuit and water. The buoy was moored from the centre of gravity, as shown in the opposite sketch, only the mooring chain was passed over a windlass, which, with the hawse tube below, was made to turn on a swivel, so that the buoy could rotate freely without twisting the chain, the links being firmly held by a stopper. The chain, after passing the windlass, led through a shackle attached to the mooring anchor; by which ingenious arrangement the chain became endless, and could be sighted in all its parts at any moment for examination, painting, or otherwise, by simply revolving the windlass, and thus very materially lessening the chances of a deterioration or failure. The tower was also supplied with a signal

flag, and railings were placed round the level deck below.

As this buoy was experimental, it was purposely placed in the overfall of the sea at the South Sand Head in order to test its qualities, for no ship or boat could possibly have retained her position on this particular spot; and yet, after careful observation, it was found that the buoy did not oscillate in a heavy gale more than 10°, although lightships are known to roll to the extent of 40°.

Mr. Herbert's principle, though undoubtedly sound, yet possessed one fault, which was that, owing to the ceaseless motion of the sea, the mooring chain was found to press with so much force upon the lower edges of the internal cone, and to occasion so much friction, that in time a hole was worn completely through this part. This was the case with the buoy in question, when, as a matter of course, it instantly filled and went down. It was afterwards raised, and an examination at once revealed the cause of the disaster; a large hole was found in the lower edge of the cone, occasioned by the pressure and rubbing of the mooring chain.

Finding that large buoys constructed on this principle were completely successful, Mr. Herbert proposed that a regular lighthouse, with short tower and lantern, should be placed on a huge buoy of this pattern, only very much larger in form, far more strongly built, the tower and lantern taking the place of the cone and ball. The plan seems perfectly feasible, and it would appear to be only a question of size and strength; for, if such a vessel could be constructed, measuring 25 feet in diameter, so could another such vessel be built of

just double or treble that size, capable of carrying double or treble the weight; and so long as it was fully and carefully ballasted below, to avoid the danger of being top-heavy, there can be little doubt of the practicability of the scheme. It does not, however, appear to have ever been experimentally tried; perhaps the necessarily large cost of such a structure might have been the obstacle.

Courtney's Automatic, or Whistling, Buoy.

The idea of fixing a whistle in a buoy in such a manner that it would be blown by the air forced through it by the pressure of the waves, and the ceaseless motion of the buoy, is nothing new; such a contrivance was known more than forty years ago, although it does not appear to have been much used. Courtney's patent is a clever American invention, and exhibits a great improvement in the general construction of whistling buoys. In shape the body of the buoy is similar to the ordinary conical one, except that at about 3 feet from the top it is made quite flat. On this are fastened two small tubes, through which the air passes into the interior, and between these a large whistle is fixed. Around the whole is a hand-rail, and steps are placed so that the top may be reached from a boat for painting, repairing, or other purposes, and there is also a man-hole to get at the interior if necessary. To the bottom of the cone a large iron tube is attached. When in use, more especially in a heavy sea, the wind which passes down the two small tubes is forced out through the whistle by the perpetual move-

ment of the buoy. The noise, it is expected, will be so great that it will be heard for probably some miles.

Such a buoy as this was placed, by order of the Trinity House, on the 8th of January, 1880, as an experiment on the North East Goodwin in order to test its powers and capabilities in the capacity of a "warning" buoy or beacon, and it remains there still, and appears to answer its purpose very well.

Luminous Paint Buoy.

Another and very interesting experiment was tried, by order of the Trinity House, in the year 1882, to test the utility of luminous paint, by mooring a buoy so painted close to the North Tongue Buoy, which is covered with the ordinary paint. As the night of the trial happened to be very bright and clear, both buoys appeared to show equally well at a distance; but it was thought that in a dark night the luminous buoy would have the advantage. It so happened, however, that actual experience proved the contrary, as the following statements show:—

A buoy covered with luminous paint was laid down near the entrance of Harwich Harbour, and one of the continental steamers trading to that port, coming in at night, whilst the captain was anxiously looking out for this buoy in order to guide him in, actually ran over it before it was seen at all. Another buoy so painted, was placed by the French authorities at Havre-de-Grâce, and was run down by a vessel under almost exactly similar circumstances.

Pintsch's Gas Buoy.

This is a most ingenious invention for producing a fixed light. These buoys are made perfectly gas and water-tight, and charged with gas at a pressure of 10 atmospheres, or 150 lb. to the square inch. The gas contained in the buoy is estimated to burn day and night for a period of three or four months, the burning pressure being carefully regulated, and kept constant, by Pintsch's patent regulator. These have been in use for three or four years in England and Scotland, and have been found to answer their purpose so well that it is not impossible they may be tried on the Goodwin Sands, which, however, as yet they have not been.

Bells on Buoys.

A plan for placing bells on buoys to be rung by the action of the waves was patented by Mr. R. Stevenson so far back as 1810. The idea is by no means new, as a bell was placed, more than three centuries ago, on the "Inchcape Rock," on the Forfarshire coast, by the charitable Abbot of Aberbrothock; but which, according to the legend, was cut away by a Dutch rover, or pirate, either for the purposes of robbery or else out of sheer wanton mischief, and for which notable exploit—if we are to believe the legend—he was overtaken by a terrible retribution, his ship having been wrecked on the very same rock, when he and all his crew perished miserably. The story forms the subject of a charming ballad by Southey, called the "Inchcape Bell," in

which the events of the legend are told with much graphic force and beauty. The Inchcape Rock is the site of the present Bell Rock Lighthouse.

Many lighthouses, in exposed positions close to or in the sea, are fitted with a bell or bells which, when the atmosphere is thick and hazy, are kept continually tolling by the aid of machinery. The new Eddystone is provided with two which are always rung in foggy weather, and it is said that they can be heard at a considerable distance.

CHAPTER VI.

LIGHTSHIPS.

Hamblin and Avery's first Lightship at the Nore—The second Lightship at the Dudgeon—Bad system of mooring—Bridle-chains, mushroom anchors, and stone and iron "sinkers"—First Lightship on the Goodwins, North Sand Head—Second at the Gull Stream—Third at South Sand Head—Fourth at Eastern edge of the Sands—Cost and general arrangement of Lightships—Crews—Pay—Dangers to which Lightships are exposed—Constant watchfulness necessary—Spare Lightship always kept ready fitted—Lady Brassey's account of the harbour of Monte Video—Gross neglect by the lighthouse keeper.

It was about the beginning of the last century that an idea was originated which ultimately developed itself into an invention of the greatest importance to navigators, and introduced a totally different system of lighting our coasts. Robert Hamblin, who followed the occupation of a barber at Lynn, in Norfolk, conceived the plan of substituting a floating lightship for a fixed lighthouse in situations where it would be utterly impossible to place any built-up structure; and to this man's genius we owe this most eminently useful system which has now been adopted all over the civilised world.

Hamblin appears to have married the daughter of a master-mariner and ship-owner living in Lynn, and

ultimately to have become himself the captain of a small vessel engaged in trading up and down the east coasts. Subsequently he joined a Londoner named Avery, a man of great intellectual capacity and adventurous turn of mind; and to their sagacity and enterprise combined we owe the first floating light that ever appeared on English waters, which was established at the Nore in 1732.*

As the Nore floating light was found to be so successful, it was determined that a second should be established at the Dudgeon, which was accordingly carried out in 1736.

The great obstacle to the utility of lightships which was experienced in the olden days, was found to be the extreme difficulty of mooring them securely so as to prevent them from drifting about when the wind was blowing a gale, a circumstance calculated to fearfully deceive, instead of guide, the storm-tossed mariner. This was owing to the system of mooring being so very imperfectly understood at that period. But modern ingenuity and science, at once recognising this great danger, have entirely got over the difficulty by means of "bridle chains" of enormous strength, and "mushroom" anchors (so called from their exact resemblance to that vegetable), and stone and iron "sinkers" of vast weight, and so securely are these vessels now held that for any one of them to break away from her moorings is a very rare occurrence indeed.

* A beacon of some kind, but not a light, was placed at the Nore so far back as the year 1684. The vessel now exhibits one bright revolving light.

The great success of the Nore lightship induced the Trinity House to try the effect of a similar experiment on the Goodwin Sands, and accordingly the first lightship that ever threw her warning beams over those dangerous waters was placed at the North Sand Head in the year 1795. This, of course, was a wooden vessel, probably some old hulk purchased for the purpose, and ill-suited for the peculiar duty; but, some years ago, she was replaced by a strong iron craft of 184 tons, built at Blackwall expressly for this service. She is moored in 9 fathoms of water, by 210 fathoms of 1½-inch chain-cable, by one "mushroom" anchor weighing 2 tons 10 cwt. She formerly carried three fixed lights, one on each of her three masts; but these were altered in 1877 to one flashing light, placed 36 feet above the water, and showing three quick flashes per minute, visible at 10 miles range. She also carries a "fog-gong" to give notice of her position in thick weather. Like all the Trinity House lightships, she is painted bright red, with her name in huge white letters on her broadsides,* so as to be easily read by all who pass within convenient distance. The total cost to the Trinity House of this ship and all her fittings was £5,587, a comparatively small sum when her enormous utility in saving life and property is remembered.

After a fourteen years' trial this light-vessel proved so great a success that the Trinity House—always foremost in every good and useful work connected with the shipping interests of Great Britain—determined to place a second lightship on the western edge, and

* In Ireland the lightships under the "Ballast Board" are painted black.

nearly between the two portions of the Sands commonly called the "Gull Stream." Another floating light was therefore placed here in 1809—a wooden vessel of 158 tons, built, like the last, expressly for the work. She is moored in 8 fathoms of water, and, like her neighbour, is secured with a "mushroom" of 3 tons and the same description of chain cable, and has in addition an anchor with 4 fathoms of 2-inch chain cable. Her name 'Gull' is painted on her sides. Previous to 1825 the 'Gull' lightship had one mast and a yard, from the arms of which two fixed lights were exhibited; but after that date, and until 1860, she carried her two lights placed on two masts in the usual manner. Since 1860, however, these have been most judiciously altered to one flash light 38 feet above the water, which shows a "flash" every 20 seconds, whilst the light revolves once in every 2 minutes, and is visible at a distance of 10 miles. By this admirable plan the light is seen to flash six times during the entire revolution on all points of the compass, and therefore can never be mistaken for anything else but what it really is. She also carries a fog-gong. The first cost of this ship was £4,197—nearly £400 less than the iron ship at the North Sand Head—but the new revolving light since added, with its elaborate machinery, has very materially increased the original expense.

The practical utility of these two lightships having been so complete in every way, a third was ordered to be placed to indicate the position of the extreme southern end of the Sands to mariners proceeding northwards through the narrow straits. A wooden vessel of 184 tons, built at Blackwall at a total cost of £3,212, was

therefore placed here in the year 1832. Her moorings, consisting of a mushroom, weighing 3 tons, and an anchor, are laid in 14 fathoms of water. She has one mast only, with the usual red ball, and one flashing light, fixed in 1884, giving two quick flashes every half minute, placed 34 feet above the water, and visible at 10 miles; and, like her two consorts, is painted red with her name 'South Sand' in white on her broadsides. In 1875 a fog-horn, or "siren," was added to warn mariners coming from the south of the immediate vicinity of the southern point, *i.e.* the commencement, of the dangerous ground they were approaching, and this signal has been found to be of the greatest service in thick weather.

As the north, south, and west (or inner) sides of the Goodwins were thus carefully lighted, it was determined for additional safety that a fourth light on the east, or outer, side should be added. Accordingly, in 1874, a wooden ship of 163 tons was moored here in 30 fathoms of water, by 270 fathoms of 1½-inch cable to a mushroom of 3 tons weight, in addition to a heavy anchor. She carries one revolving light showing every 15 seconds, with the peculiarity of its being *green*, to warn steersmen to keep well to the east when passing up and down along the "Back of the Sands," as the outer or east side is commonly spoken of in the county. This light is placed 37 feet above the sea, and is visible 10 miles. The vessel is also provided with a fog-gong. We believe that there are only two other instances of lightships carrying green revolving lights, and these are the 'Inner Dowsing' and the 'Mouse'; but red, both fixed and revolving, are very frequent.

As these four lightships, like watchful sentinels, keep guard on one of the most dangerous and treacherous parts of our English coast, it may not be altogether uninteresting to give some few particulars concerning these vessels, their general arrangements, and the number of hands constituting their crews, as well as the remuneration which the men receive for this apparently dangerous service.

The rules as to numbers and pay are the same in all these Goodwin lightships, and the crews, consisting of twelve persons all told, are classed and paid as follows:—

The Master, £5 per month, and £20 per annum for house rent.
The Mate, £4 8*s.* per month, and, after 5 years, £5 per month.
The Carpenter, £2 17*s.* to £3 5*s.* 6*d.* per month.
3 Lamplighters, £3 each per month; after 3 years, £3 3*s.*, and, after 5 years, £3 5*s.* 6*d.*
6 Seamen, £2 12*s.* 6*d.* each per month, rising to £2 15*s.* and to £2 17*s.* 6*d.*, as above.

In addition to this, the men receive 1*s.* 9*d.* per man, per day, victualling money. The seamen are shipped for six months on probation, after which their lives are insured for £150 or £200, the Trinity House paying 2*s.* 6*d.* per month each for this purpose.

The master or the mate are always on board for one month each, together with six men, that is to say, there are always seven on and five off duty; and of these seven, three are up all night to attend to the lamps—an excellent provision, denoting the care and forethought bestowed on these important arrangements. Each ship carries a gong, two guns for firing signals, and also a good supply of rockets and other pyrotechnic appliances for the purpose of giving notice along the shore when-

ever a disaster happens on the Sands, and signalling the authorities to dispatch immediate assistance in the way of either lifeboat or steam-tug.

Books, periodicals, and newspapers are furnished in abundance by numerous kindly disposed and benevolent persons. The food is good and well cooked; tobacco is plentiful, and the men are altogether made as comfortable as the peculiar and exceptional circumstances of their case will permit.

These lightships are built expressly for strength and endurance, and are securely moored with the strongest and best description of anchors and chain cables; yet the service on board is by no means free from danger and anxiety, as might at first sight be supposed. Very serious accidents often occur from the fact of these vessels being run down by both steamers and sailing ships. In 1856, the 'Gull' lightship was run into by an American, and the light extinguished; but, thanks to the admirable arrangements on board, in about three hours the lamps were all alight again. Within the last few years two others, near the entrance of the Thames, have been actually sunk at their moorings from this same cause; and the East Goodwin and South Sand Head lights have been frequently damaged by collisions, and in some cases very seriously. But a short time ago (1885) the latter vessel had her lights put out and her side stove in. It seems almost a paradox that, of all vessels in the world, a lightship, carrying a brilliant lantern at her mast-head, should ever be run down at all; and it can only be accounted for by under-manned ships being unable to maintain a proper look-out, or captains having over confidence in

steam power, and recklessly steering too close to danger and not allowing for the strength of cross-currents.

In crowded waters, like the Downs especially and their immediate surroundings, the lightsmen when on duty necessarily live in a state of constant anxiety and watchfulness, for they well know that all their precaution and care will not always insure immunity from the peculiar dangers to which they are subject, and over which they can have no sort of control.

One danger we believe, however, is of rare occurrence, and that is for a lightship to break away from her moorings, or to drag her anchors; and this may be explained by the immense strength of the chain cables employed, and by the admirable and thorough manner in which they are secured.

It should also be known, as exhibiting the extreme care and foresight of the Trinity House in these matters, that a spare lightship, fully equipped and fitted for sea, is always kept at Blackwall to be in instant readiness, if required, in the event of untoward accidents befalling any of these lightships; and a few hours, it is said, will suffice to tow her down, place her in position, and exhibit her light.

As a singular contrast to the ceaseless and watchful care which England, through the Trinity Board, bestows on her lighthouses and lightships, a curious statement is made by Lady Brassey, in her most interesting work the 'Voyage of the Sunbeam,' as exhibiting the ignorance and mismanagement tolerated by other nations in regard to the most important and vital question of protecting their coasts by efficient lighting. Speaking of the dangerous navigation of the approach to the harbour

of Monte Video, Lady Brassey says:—"The shore is very low and difficult to distinguish, and the lights are badly kept. If the lighthouse keeper happens to have plenty of oil, and is not out shooting or fishing, he lights his lamp; otherwise he omits to perform this rather important part of his duties. The lighthouses can therefore hardly be said to be of much use."

The consequence of this shameful neglect was that the 'Sunbeam' nearly ran on shore. Accustomed as we are in England to the admirable arrangements and the careful and intelligent discipline of the Trinity House, it is almost impossible to realise the startling fact of a lighthouse keeper coolly taking his pleasure shooting or fishing, and utterly neglecting that very part of his duties on which life and death may be almost said to depend. But instances of gross official neglect and careless mismanagement seem to prevail all over South America, where apathy and indifference are the rule, energy and intelligence the exception.

Telegraphs to Lightships.

It must be a matter of some surprise that, whilst almost every trade, business, or profession has benefited more or less by the electric telegraph, it has never been applied to lighthouses or lightships—places of all others where the means of direct and immediate communication are most urgently needed. The position of light-keepers is often both distressing and embarrassing, for, when a wreck occurs almost under their very eyes, all they can do is to fire guns and let off rockets, which at best produce but a vague alarm,

and convey no sort of intimation to the shore as to the particular spot where the speedy help of the lifeboat is required. Carrier-pigeons have been tried, but they are generally far too terrified to fly through a heavy gale of wind, and always return to the light. There surely need be no very great or insurmountable difficulties in the way of connecting lightships with the coast, for they are generally moored at the distance of only a few miles, and, even if vessels anchoring near fouled or broke the cable, it could readily be repaired; but, if its track was carefully and plainly buoyed, this danger would be avoided. An influential meeting was held at the Mansion House in London, in October, 1881, to consider the vast importance and necessity of connecting our lighthouses and lightships with the shore by electric cables; but as yet it seems to have been but a proposition and nothing more. Is it too much to hope that the subject may again receive the serious consideration of the ruling authorities, and that this great and useful improvement may yet be carried out?

CHAPTER VII.

WRECKS.

Evil reputation of the Sands—Wrecks and lifeboat services—Loss of a whole fleet of men-of-war—Great storm of 1703—Destruction of the first Eddystone Lighthouse—H. M. S. 'Carlisle' blown up—Charges against the Lords of the Admiralty—Earl of Dundonald—Wreck of the 'Aurora' transport—'British Queen'—'Shepherdess'—Nameless Wrecks—'Mary Wright'—'Eleanore'—'Queen of the Tyne'—'Violet'—Rev. John Gilmore's "Storm Warriors"—'Gutenberg'—Poem entitled 'Routine'—Wreck of the 'Honi Svern'—An American clipper—'Mia Madre'—'Leda'—'Colina'—'Shannon'—'Paul Boyton'—'Freden'—'Ganges'—Wreck of the 'Effort'—Extraordinary rescue of six hovellers—Wreck of a Portuguese brig—'Mary'—'Linda'—'Amoor'—'Providentia'—'Aurora Borealis'—Excessive competition—Great ignorance—A "quiet sleep" in Trinity Bay—Reckless sailing—Ships grounded on Sands pulled off again.

[This chapter does not pretend to contain a record of *all* the wrecks which have occurred on the Goodwins, but merely a reference to a few of the most remarkable.]

As the Goodwin Sands have had an evil reputation for nearly eight centuries for danger and disaster, as already mentioned, it is not surprising that the stories told of misfortune and wreck which have overtaken many a good ship steering through the Straits are as numerous as they are varied. Even the Downs have not, by any means, been always proof against the destructive effects of wind and tempest, although they

are considered as a sort of harbour of refuge where ships can ride out a storm in comparative safety, protected on one side by the shore and on the other by the Goodwins.

It may be here worthy of remark that the number of wrecks, from all causes, on or near the British coasts is generally surprisingly large, notwithstanding the ever-watchful care of the Trinity House in always so readily providing lighthouses, lightships, beacons, and buoys wheresoever and whensoever required. The official returns give the total number of wrecks and casualties for 1879 as 4,436, involving the loss of 892 lives. During the previous twenty-four years 46,320 vessels had been wrecked on the British coasts, with the loss of 17,829 lives; which loss would have been very far greater but for the noble services of our many lifeboats, for the returns reveal the fact that during the year 1879 as many as 855 lives were preserved from shipwreck by means of the lifeboats on our coasts.

Of the many interesting stories of loss and wreck on the Goodwins, one of the most remarkable, because the most terrible in the wholesale destruction which it recounts, relates to the total loss of an *entire fleet* of men-of-war in the celebrated "great storm" of 1703, which has been so often referred to in various histories and narratives. The fleet, consisting of thirteen ships under the command of Rear-Admiral Basil Beaumont,* was at anchor in the Downs on the morning of the 26th of November, 1703. The weather had been especially bad, and very stormy for many days previously, and by eleven o'clock p.m. on the date named,

* See Appendix No. 17.

the gale, which had been blowing hard all day from the south-west, had increased to such tremendous violence that the storm which followed is recorded as having been one of the greatest and most destructive ever known in this country. It raged in the Downs with unbounded fury for a period of nearly eight hours, and, when morning dawned, the fleet, which the evening before had been safe at its moorings, was nowhere to be seen, every vessel having been totally lost or wrecked, either on the Sands or on the neighbouring shore. Of the thirteen ships of war four, namely, the 'Stirling Castle,' 70 guns, the 'Mortar Bomb,' the 'Mary,' 70 guns, and the 'Restoration,' were totally lost, having broken their cables and got on the Sands. Only seventy persons were saved from the two former ships, whilst every soul perished in the two latter, including the unfortunate Admiral himself, who was on board the 'Mary.' Of the remaining nine, whilst some were sunk, the majority went ashore on the mainland and became complete wrecks, and 1,200 officers and men are said to have perished. The loss of merchant ships which had also anchored in the Downs, and the destruction of buildings and property along the coast of Kent as well as inland—the ships in the Medway, including the 'Vanguard,' 70 guns, not escaping—is reported to have been disastrous in the extreme, and the extraordinary power and violence of the storm to have been wholly unprecedented.*

Nor was it in the Downs or in the neighbouring county that the damage by this fearful storm was most apparent. The following first-rate men-of-war were

* See Appendix No. 18.

totally wrecked and most of their crews lost as well: the 'York,' 70 guns, at Harwich; the 'Resolution,' 60, off the Sussex coast; the 'Newcastle,' 60, at Spithead; and the 'Reserve,' 60 guns, in Yarmouth Roads.

In London alone property to the value of upwards of a million sterling was destroyed, and 800 houses were more or less damaged or wrecked. In Gloucestershire it is said that 15,000 sheep were driven into the Severn and drowned; but this certainly seems an enormously unreasonable number, and the report possibly may have been much exaggerated. Hundreds of churches all over the country were unroofed, had their steeples blown down, or were otherwise damaged. Upwards of thirty ships of war were wrecked on the northern and western coasts, or in various ports or harbours, together with a vast number of merchant vessels and fishing craft, and over 8,000 persons were estimated to have perished.

It may not be out of place here to mention a deeply interesting but most melancholy loss, which occurred during the prevalence of this terrible storm on the night of the 26th of November, 1703. During that night the first Eddystone Lighthouse, which was commenced in 1696, was swept into the sea, with all its occupants, including the unfortunate architect, Henry Winstanley, a country gentleman of Littlebury, in Essex, who had expressed a desire to be in the lighthouse "during the greatest storm that could blow under the face of Heaven," so confident was he of its entire solidity and strength. Curiously enough, he had his presumptuous wish fulfilled in a manner he little anticipated.

From first to last the storm appears to have continued for fourteen days, and to have moved upwards from the southern hemisphere prostrating and destroying everything in its awful and irresistible career. When at its worst the wind is described as producing a hoarse, roaring, heavy sound, like rolling thunder, whilst the unnatural darkness added to the horrors of the dreadful scene. Some writers state that the storm was accompanied by terrific thunder and lightning, but this is either expressly denied, or not alluded to at all by others. The wind, *and the wind alone*, worked the whole of the fearful mischief recorded.

One of the earliest calamities reported to have happened in the Downs—though not attributable to the power of either the winds above or the seas below—occurred about four years before the great storm, that is, in 1699. On the 9th of September in that year, H.M.S. 'Carlisle,' a fourth-rate man-of-war, was quietly riding at anchor opposite Deal with all her officers, men, and stores aboard—probably waiting for a fair wind—when she suddenly blew up, and in a few minutes went to the bottom carrying everything and everybody with her. Not a life, nor one single thing belonging to the unfortunate ship, except a few spars and broken timbers which floated, was saved. How the mishap was brought about—whether by accident, or from malice or from some devilish spirit of wholesale revenge—of course will never be known in this world, as "not one soul was left to tell the tale."

Amongst others, of the many grave charges brought against the Lords of the Admiralty in the "good (?)

old days when George the Third was King," a constant and very common one was the dangerous condition—from age and disrepair—of the vessels generally employed for use in the Transport Service: and hundreds of our soldiers and sailors met with untimely deaths by the frequent foundering of these floating coffins. The Lords of the Admiralty of that period seemed to think that *anything* would do, no matter how old or rotten, for military transports; and, as it appeared to be nobody's business to look into the matter, nobody, of course, troubled himself at all about it, and the evil was thus quietly suffered to go on unheeded and unchecked.

It was entirely owing to the courage and perseverance of the late gallant Earl of Dundonald (who as Lord Cochrane represented Westminster in Parliament) that the question was brought before the country, over and over again, by his Lordship, in his place in Parliament, of the excessive corruptions which existed in every department of the Admiralty of that period, and he did his best to institute many much-needed reforms; but, as reforms and reformers in those days were not in fashion, Lord Cochrane only brought upon himself the implacable hatred of the Government party, who did not scruple to use the meanest and most infamous measures, in which every sort of misrepresentation and falsehood were pre-eminent, and were openly employed, in order to crush a high-minded, noble-hearted man, merely because he tried his best to correct a grievous and crying abuse of public patronage and public money by the introduction of moderate reforms, but which, however, just then, did not at all suit the views or

desires of a corrupt and time-serving Administration.*

Amongst the many losses of ships and soldiers which were continually occurring during the long war, owing to the transports being utterly unseaworthy, the following may be mentioned as a peculiarly sad instance :—

The 'Aurora.'

It is recorded that on the 21st December, 1805 (exactly two months after the victory of Trafalgar), an Admiralty transport, the 'Aurora,' was proceeding down Channel with several hundred soldiers on board. It is quite possible—indeed, highly probable—that she was one of the genuine Admiralty type, that is, old, rotten, and totally unseaworthy, and therefore quite unfit for any service. In a thick fog this most unfortunate ship managed to run on to the outer edge of the Goodwin Sands, and in a short time became a total wreck, when 300 of her passengers, and the whole of her crew, perished with her. Had she been sound and strong she might well have held on until help arrived from the shore, but, being old and worn out, the waves very soon had the mastery, and she went to pieces at once. There were no lifeboats at Deal and Walmer in those days (or, indeed, anywhere else), the Kentish "hovellers" alone doing the work of saving life and assisting shipwrecked crews.

* For full particulars of this political persecution see 'Autobiography of a Seaman,' by the late Earl of Dundonald, a work that every Englishman should "read, mark, learn, and inwardly digest."

The 'British Queen.'

On the 17th December, 1814, the 'British Queen,' an Ostend packet, lost her steering in a thick fog and snow-storm, and ran into the Sands. Her signals of distress were, of course, not seen, and it is supposed that she had no gun, or guns, on board. At any rate, no signals were heard on shore, and consequently no help arrived, and she completely broke up and entirely disappeared in a very short time. Every soul on board perished, and nothing of any kind was saved but a portion of her stern shewing her name; by this melancholy relic she was recognised, and her terrible fate became known. But for this bit of timber she would have been included in that saddest and most touching of all "black lists"—"Never heard of."

The 'Shepherdess.'

This vessel, a brig belonging to Bideford, struck on the Sands in the Gull Stream on the 20th January, 1844, and quickly became a wreck, when the crew took to the rigging. Several Deal and Ramsgate luggers put off to her assistance, but could not approach her on account of the extreme violence of the breakers. At length the 'Earl Gray,' a Deal lugger, at very great hazard, managed to get through the surf, and with the greatest difficulty rescued several of the crew, whilst two other Deal boats, the 'Poll' and the 'Sparrow,' after much waiting, contrived to save two more, and eventually all were rescued. But it was altogether a

work of infinite danger and hazard, as the sea was running too high to make a rope fast, and these men were saved by either jumping into the luggers as they rushed by, or were hauled on board, by a rope, through the boiling surf. The men were saved not a moment too soon, for when the tide rose the 'Shepherdess' floated off, and immediately sank in deep water. For this great service the Treasury awarded the sum of £34 between the three boats. The 'Earl Gray' received £18 between thirteen men, and the other two £8 each, or £16 between twelve men—not a very magnificent reward, certainly, for the richest country in the world to bestow for such a noble and desperate piece of true courage and humanity. The French Government, about the same time, bestowed 400 francs upon the crew of a small Deal boat for saving the crew of a French fishing lugger in extreme danger on the Sands.

Unknown Wrecks.

It is no uncommon circumstance for a vessel to be driven on the Sands during the night in a heavy gale of wind, and there go to pieces before any signal can be made, or, even if made and seen, before any help can arrive; for the Goodwins, aided by the winds and the waves, make short work of their victims when once fairly in their clutches. The name and country of such a hapless ship will be alike unknown, and the fact of her loss will be only ascertained the next morning by a few floating spars or by fragments of timber left on the Sands at low water. Such a fearful catastrophe happened on the night of November 14th

1850, when two small vessels, which were known to have passed Ramsgate in the evening, stranded on the Sands in a gale of wind, and were totally lost, whilst all on board perished. Their names were unknown, and nothing was found to tell the sad story but a few floating spars and broken timbers.

The 'Mary Wright.'

On the 6th March, 1851, this vessel, a new brig of 300 tons, owned by her captain, was making her first voyage, when she was totally lost on the inside of the Sands, with her captain and two of her crew, seven having been saved by the Ramsgate hovelling lugger 'Buffalo Gal,' which at the same time cleverly managed to save the Broadstair's lifeboat, which had been badly stove during her battle with the elements. The 'Buffalo Gal' returned to Ramsgate in great triumph with the rescued men and the crew of the lifeboat all on board, and the damaged lifeboat in tow. The circumstances of this wreck were of a peculiar and most melancholy character. The captain was the owner of the brig, and this was her first voyage. The captain had only recently lost his wife, and was proceeding to meet his only daughter at Southampton; but the first intelligence the poor girl received on the subject was that both her father and his ship were lost on the terrible Goodwins.

The 'Eleanore.'

This was a French schooner which, on the 8th of November, 1853, at ten at night, was driven ashore near the North Sand Head. On the alarm being given, the steamer 'Samson,' with the lifeboat 'Northumberland' in tow, at once started, and on reaching the wreck they found three luggers had already arrived on the scene, and had anchored near the schooner, but could not approach her owing to the terrific seas breaking over her. The steamer towed the boat up into position to windward, where they let go their anchor, and veered down to the wreck; but, unfortunately, the anchor would not hold, and came home, as the term is. Again the steamer towed up the boat, and again the anchor missed, and came home, but not before the lifeboat crew managed to throw lines on board the wreck, which, however, the crew failed to make fast. Two successive seas now filled her and swept her away from the schooner, and threw her among the breakers on the face of the Sand; but, as the tide flowed, she got off under canvas and again floated. A third time the lifeboat was towed up, and a third time tried hard to get alongside, but was again filled and driven off, whilst the anchor again failed to hold. The lifeboat was then driven violently away to leeward, and lost all sight of the wreck, which immediately afterwards rapidly broke up and went to pieces. The captain, in a state of nudity, swam to the nearest of the three luggers, the 'Ondine,' and was rescued. The crew were all lost, but the one

passenger on board was saved almost by a miracle. He was found by the lugger 'Charlotte Anne,' the next day, lashed to a piece of the wreck, perfectly insensible and lying on part of the Sand, then dry. Without a moment's hesitation the crew launched their small boat through the surf, and rescued the passenger. But to return through the surf on that side was impossible. The small boat was, therefore, dragged over the dry sand, and launched on the other, or lee, side of the Sand, when the half-dead man was transferred to the lugger, and brought safely to Ramsgate. The master of the 'Ondine,' one of the three luggers, afterwards made this very characteristic statement:—"I wished myself at home more than once, for I never saw anything so frightful all the times I have been near wrecks. The dark night, with such a terrible sea! The cries for help of the poor men! The roaring and smoke of the steamer! The lifeboat ashore on the Sands, and every sea breaking sheer over and over her, tried our heart-strings, I do assure you! And at daylight we could see nothing but the raffle of the wreck; and so we came away!" They had done all that high courage and matchless endurance could accomplish,—two were saved, the rest lost, and the ship had gone to pieces—verily, their noble work was done, and so they "came away."

A Dutch Schooner.

On the 4th February, 1855, this vessel got on the Sands in a fearful blinding snow-storm.

The 'Northumberland,' in tow of the 'Samson,'

started to her aid; but, being unable to find her, was cruising about, when she met with the schooner's boat with the crew on board rowing hard for the 'Gull' lightship. The lifeboat at once took them all in, and they were ultimately landed in safety.

In both the cases just related the lifeboat owes its saving powers to the *great help* given by the *steam-tug*.

It has been thought that steam-tugs cruising about the Sands, should always be instructed to give tow to luggers and other craft they may chance to meet, and so help them on their way. By this means an immense service would undoubtedly be done, for it is very well known that luggers, and even lifeboats too, are often utterly powerless to make headway in the teeth of a fearful gale, with a contrary rolling sea beating them back at every step. At such a moment the help of a powerful steam-tug would be simply invaluable, so far as the saving of life and property are concerned.

The 'Queen of the Tyne.'

This vessel went, end on, on to the Sands, near the 'Gull' lightship, on the 2nd of May, 1855, in a very heavy gale of wind. The Deal lifeboat at once put off, and, after great difficulty, succeeded in saving the whole of the crew. But this was not all, for, on the rising of the tide, the ship was by great skill, and with the assistance of steam-tugs, at last pulled off into deep water, with not more damage to her hull than might have been expected from severe straining and beating about; and thus both ship and cargo were

saved by energetic and clever management, and prompt and ready action.

The 'Violet.'

In the terrific storm which is recorded to have raged throughout the whole of the first week of January, 1857, many serious wrecks took place on the Goodwins, accompanied, more or less, by loss of life and property; one of the most melancholy of these having been the mail steamer 'Violet,' which, on the 5th January, 1857, was totally lost, and all on board, with a rapidity perfectly appalling, the entire work of destruction having been accomplished in less than four hours! This vessel had been seen to go "on the Sands" by one of the lightships, which immediately fired rockets to give notice that a ship was in distress. The steamer 'Aid,' with the Ramsgate lifeboat in tow, at once started, reaching the Sands at three in the morning; but, after carefully searching up and down, could see nothing of the wreck anywhere, owing to the thick darkness and driving snow. They waited till daylight, when they discovered a part of a mast sticking out of the Sands, but could see nothing of either vessel or crew, and were just sailing away, when they encountered a life-buoy with three dead bodies lashed to it—all that remained of the unfortunate 'Violet'! These poor fellows were silently lifted on board the lifeboat, reverently covered with a sail, and so conveyed to Ramsgate for proper burial.

Mr. Gilmore thus graphically refers to the sad story:—"She (the 'Violet') left Ostend about eleven the

previous night; at two in the morning she struck on the Goodwins; a little after three there was no one left on board to answer the signals of the steamer and lifeboat that came out to their rescue; at seven there was nothing to be seen of the 'Violet,' crew, or passengers, but a portion of one mast, and the life-buoy picked up by the lifeboat, with the three pale corpses attached to it sleeping their last sleep under the lifeboat sail. Such are the Goodwin Sands!"

The 'Gutenberg.'

But, perhaps, one of the most shocking and deplorable wrecks that ever occurred on the Goodwins was the loss of the 'Gutenberg,' a German brig of 170 tons, and twenty-five of her hands, together with a Deal pilot named Henry Pearson, out of a total crew of thirty, on the night of the 1st January, 1860. I apply the words "shocking" and "deplorable" to this terrible disaster because—as far as human probabilities go—this sad loss of life ought never to have occurred at all, because it ought to have been, and might have been, easily prevented but for the demon "Routine"—a demon which seems to obstruct and hinder much of the public work in this highly educated and eminently enlightened, but board-ridden, country of ours. "But," exclaims the intelligent reader, "it is difficult to conceive how official 'routine' can be in any way connected with a wreck on the Goodwin Sands: how is it even possible?" It is quite possible, however, as the melancholy event proved, only too truly; and I will explain, as briefly as may be, how it came about.

On the 1st January, 1860, the ship named got on the Sands in a thick fog accompanied by a blinding hurricane of wind and snow. Her signals of distress were seen at Deal, but not, apparently, at Ramsgate, or by either of the lightships, owing to the thickness of the fog. One of the principal boatmen at Deal, Stephen Pritchard by name, knowing that Henry Pearson, a Deal pilot, was on board, instantly telegraphed, at half-past six o'clock p.m., to Stephen Penny, another boatman at Ramsgate, to send out the large lifeboat (as there was none at Deal at that period) in tow of the powerful steam-tug 'Aid,' always kept there with steam up in readiness for immediate duty. The message was sent because it was found impossible to launch any of the large Deal luggers, in consequence of the tremendous sea then rolling in from the north-east upon the beach.* Penny and a dozen brave fellows instantly responded and manned the lifeboat, but, on applying to the harbour-master for leave to go, and for the steam-tug to tow them, permission, in each case, was *peremptorily refused!* And why? Because that worthy official had received no signal from either of the lightships of any vessel being in distress on the Sands; and therefore, until he received such signal—or, in other words, until he had been "officially informed," according to the due requirements of "routine"—neither steamer nor lifeboat would be

* The 'Albion,' a splendid Deal lugger, was totally destroyed a few years ago in an attempt to launch her during a heavy gale blowing in shore; she was capsized, thrown back upon the beach, and completely broken to pieces, her crew escaping only with the greatest difficulty.

allowed to stir, although he knew perfectly well, unofficially, that thirty-one unfortunate fellow-creatures were in the most imminent peril of their lives, and when every five minutes was of vital importance. Again and again did Penny and his gallant crew implore and beg for leave to go. At eight o'clock p.m. and again at nine, two other, and still more urgent, telegrams were received from Deal; but the obstinate official, in his stupidly blind worship of "routine," still refused, adding this time, with insolent mockery, "If you must go, go in your own luggers," well knowing, as a practical seaman, that the luggers could not have reached a ship on the Sands, as there was not water enough to float them, and the small dingey boats would have been instantly swamped in the broken water, where nothing but a lifeboat could live for a moment.

At length, after three hours of painful and anxious waiting by Penny and his comrades, the South Sand Head lightship appeared to have discovered the wreck through the driving snow, and instantly fired one of her guns—the "official" signal duly required by the genius "Routine." Then, but not till then, at a quarter-past nine p.m.—thus losing three most precious hours—did the harbour-master send off both tug and lifeboat. And with what result? Just in time to hear the dying shrieks of the last of the twenty-six of that long-suffering crew of thirty-one, five having, in sheer desperation, already taken to their only boat left. They were, almost by a miracle, ultimately rescued by the life-boat.

Now, if ever twenty-six lives were wantonly sacrificed to blind adherence to a rule as stupid as it was mis-

chievous, these poor fellows most certainly were. Could no discretion be allowed the harbour-master in the face of any such really desperate circumstances? Oh, dear, no! the sapient official rule was that, until he received the "official" signal, from one or other of the light-ships, of a vessel being in distress, the lifeboat was not to go out, although the harbour-master himself, and all the neighbouring coasts, were thoroughly well aware that, at the very moment, a ship and her crew were actually perishing almost before his eyes. Such obstinacy is therefore all the more reprehensible and unpardonable when it comes to be a question of either life, death, or routine! It should be stated that neither the lifeboat nor the steam-tug then belonged to the National Life-Boat Institution.

A finely written leading article (from the brilliant pen of Mr. G. A. Sala, I believe) in one of the daily papers of that period, in reference to this sad story, concludes with the following incisive lines:—"Talk of routine—talk of red tape—talk of the vices inseparable from a little brief authority! Are men no better than mere machines of wood and iron, to be propelled in grooves and kept within immutable circles? Was it for an individual with the death-cry of twenty-six mariners almost ringing in his ears, to pronounce their doom and order that they should be left slowly to perish, because he was afraid to contravene a rule laid down by his employers in Austin Friars? If this be duty we infinitely prefer that sort of insubordination which at some moment of supreme necessity violates every law except the sublime one of nature, and dares to be officially in the wrong in order to be manfully in the right."

The whole of this story has been cleverly woven into a very well-written and touching poem by the authoress of 'The End of the Pilgrimage,' under the name of 'Routine: a Tale of the Goodwin Sands,' in which the events are all truthfully and carefully detailed with much graphic power, and the harbour-master is supposed to be punished for his obstinate indifference by a most fearful vision.

It is very gratifying to record that a large public subscription was raised for the widow and family of Pearson, the unfortunate Deal pilot who was lost in the wreck, the Rector of Walmer acting as treasurer.

The 'Honi Sverne.'

The loss of this vessel, a fine Norwegian barque, may be cited like that of the 'Violet,' previously referred to, as an instance of the rapidly destroying power of the Sands. The writer was an eye-witness of all the circumstances of this wreck, which were carefully noted. This vessel went bow-on on to the South Calliper, on the 11th October, 1870, in a heavy south-easterly gale, about 4 o'clock in the afternoon, in consequence of bad or ignorant steering, and there she stuck fast in an upright position, with all her spars standing. At 10 next morning she was observed by the writer through a powerful telescope. She had apparently sustained no further damage than the loss of her foretop-gallant-mast, broken off at the cap during the night, and the breaking of one of her main-topsail lifts, causing the yard to fall over. A very thick fog then came on and nothing more could be

seen of the barque until about 2 o'clock p.m., when a heavy gale sprang up and the fog lifted, but not a vestige of the unfortunate craft was anywhere visible. She had evidently gone to pieces and entirely disappeared some time between 10 and 2. From the fact that her stern was off the sand, it appeared just possible —at least to an outsider—that she might have been pulled off by the aid of a couple of powerful steam-tugs and floated off again before serious damage had been done to the hull; but nothing of the kind was even attempted, and the barque was lost accordingly.

A clever and interesting picture was executed of this vessel, exactly as she appeared hard and fast on the Sands, to the extreme accuracy of which the writer can bear ready testimony. It was painted by Mr. C. R. Ricketts, and was exhibited at the Royal Academy in 1872, with the title of "A Deal Lugger and the 'Sabrina,' Walmer Lifeboat, assisting the 'Honi Sverne,' wrecked on the Goodwin Sands."

One more instance of this rapid and wholesale destruction will be related which occurred about fifteen years ago to a splendid American clipper, which came sailing up the Straits in a stiff south-westerly gale, with all her canvas set, including even her royals. She was seen by several Deal boats which were cruising about, and her captain was strongly urged to shorten sail instantly and take a pilot, as he was in great danger. But the advice was recklessly disregarded, and the ship went on the Sands accordingly, as might have been expected, and in an incredibly short time was totally lost with nearly every soul on board. The captain, when warned of his extreme peril in carrying so much

sail in such a heavy gale, and that, too, in the face of the terrible Goodwins, replied, not very politely, that he knew his own business best, and wanted neither advice nor pilot, and therefore—as might readily have been expected under the circumstances—his life, his crew, and his ship, were the forfeit of his obstinate vanity.

The 'Mia Madre.'

On the 25th August, 1879, an Austrian barque of this name, laden with wheat, was stranded on the west edge of the Northern Sand, and although no less than four steam-tugs, the Deal lifeboat, and several Deal luggers were assisting her, yet during the night all hopes of getting her afloat were disappointed; the crew were thereupon taken off. She remained eight days on the Sands, during which time as much of her cargo as possible was got out and landed by "hovellers'" boats, but on the 2nd of September she was observed to be on fire, and was soon totally destroyed. How a nearly empty ship, with no one on board, could possibly have "caught fire" is a mystery so peculiar that the less said about it, perhaps, the better.

The 'Leda.'

This was a German vessel (bound for New York from Bremen) which grounded on the South Spit, near the East Goodwin Lightship, on the 28th December, 1879. The Deal and Kingsdown lifeboats instantly went to her assistance. The Deal lifeboat, the 'Van

Kook,' crossed the Sands through a fearfully heavy sea and gale of wind, and succeeded at immense risk in rescuing the crew, nineteen in all, by means of ropes. The Kingsdown boat remained by, ready to help if required. The masts of the ill-fated vessel soon fell over, and in a short time she went to pieces, and her cargo of petroleum was, of course, lost.

The extreme danger of this rescue was most graphically told by the chaplain of Missions to Seamen, at Deal, in the pages of a local publication. He says :—

"The barque's main and mizen-masts were gone, and the crew were clinging to the weather bulwarks, while sheets of solid water flew over them. The Deal lifeboat, the 'Van Kook,' fetched a little to windward and, dropping anchor, veered down to the barque. . . . If the cable parted and the lifeboat struck the ship with full force, not a man would have been left to tell the tale; or, if they got to leeward of the barque, the crew of the wreck would have been lost, as the lifeboat could not again have worked to weather to drop down as before. No friendly steam-tug was at hand in this case to help the lifeboat to windward in the event of failure in this first attempt, and both the crews were well aware of the stake at issue, and that this was the last chance.

"But the lifeboat crew . . . concentrated their energies in getting close enough to the wreck to throw their line, and yet to keep far enough off to ensure safety. They were now nearly beaten by the tremendous seas breaking into and over them, and no other boat could have lived in such a cauldron of seething, raging waters. Notwithstanding the self-emptying

power of the wondrous boat, the seas broke into her in such quick succession that she remained full up to her thwarts, and the men were repeatedly thrown down, and had to hold on for dear life. . . . At last the 'throw-line' was got on board, and the crew were drawn into the lifeboat, *through the boiling waves*, by ones or twos, as the seas permitted. . . . So astonished were the rescued Germans at the submerged condition of the lifeboat that some actually wanted to return to the perishing ship . . . but the gallant lifeboat, with its freight of thirty-four souls, plunged through the surf for home. One of the rescued crew had before been twice saved by this same lifeboat, and encouraged his comrades by relating his own deliverance. . . . A service of such exceptional risk, gallantry, and success, deserves exceptional notice, and, if possible, exceptional reward. This makes 130 lives which have been saved by the 'Van Kook,' under the command of the gallant coxswain, Robert Wilds."

On the same day (*i.e.*, the 28th December, 1879) it unfortunately happened that there were three vessels on the Sands at once. The crew of one took to their boats, and, abandoning their ship to her fate, got safely round into Margate. The other, a schooner, supposed to have been Danish, disappeared altogether in a very short time, and was totally lost with all hands on board; nothing was saved, nothing was even found, not a timber, not a spar—all gone! The lifeboat had gone to her rescue, but the ill-starred vessel had utterly disappeared before the arrival of the lifeboat. The third was the German ship 'Leda' just referred to.

The 'Calina.'

This vessel—a steamer—grounded on the North Goodwin on the 17th of January, 1880, during a very thick fog; but, by a good and immediate use of her engines, she was fortunately backed off into deep water, and the devouring Sands were, for once, cheated of their prey. This proves the prodigious advantage a steamer possesses over a sailing-ship; for, had it not been for her engines, the 'Calina' could not possibly have moved herself in any way, and would, therefore, most probably have shared the fate of many another "tall and stately ship" when stranded on the Goodwins. A remarkable instance of this will be found in the case now to be related, where a sailing-ship got off *twice*, but was lost at last.

The 'Shannon.'

This vessel—a large collier brig from Shields—went ashore on the East Goodwin, near the light-ship, on the 5th of February, 1880. She, however, drifted off into deep water, but unfortunately, from the extreme violence of winds and waves, she was again driven end-on, and again, a second time, was able to float off; and the crew were congratulating themselves on their escape, when wind and tide once more, and for the third time, proved altogether too strong for the ill-fated ship, and she was again thrown on the bank with great force. And this proved the end of the cruel and unequal contest, for she soon became

a total wreck, broke up, and disappeared altogether. The Deal lifeboat succeeded in reaching her just in time, and brought off her crew; but everything belonging to them or the ship was, of course, lost entirely.

A Norwegian barque got on the Sands the next day, near the same spot, but after much effort she was floated off again, and so escaped certain destruction, thanks to the prompt and energetic assistance she received from the shore, more especially from the Deal hovellers in their fine luggers.

The 'Paul Boyton.'

On the 19th September, 1880, a large Canadian vessel of this name, of 1,100 tons, bound from Baltimore to Hamburg with maize, drove on to the outer edge of the East Goodwin. Her situation was soon perceived by the 'Gull' and the East Goodwin lightships, and these immediately made the usual signals to the shore. The Ramsgate tug 'Aid,' with the 'Bradford' lifeboat in tow, together with the Deal and Walmer lifeboats, were soon on the spot lending their valuable aid. Efforts were made to lighten her by throwing her cargo overboard and by vigorous pumping; but, as the water gained rapidly, and as it appeared to experienced and intelligent eyes that there was no chance of saving her, the crew were taken off in the Deal lifeboat. The captain and mate, however, refused to leave the ship, and the Ramsgate lifeboat, therefore, remained at anchor close by, and eventually, finding fourteen feet of water in the hold,

the captain and mate signalled to be taken off by the Ramsgate lifeboat. This was at last accomplished, but not without very considerable difficulty, as the sea was running dangerously high at the time. The lifeboat passing under the ship's stern, the two officers lowered themselves down from the end of the spanker-boom into the boat, which at once left the wreck and was taken in tow by the tug 'Aid,' and reached Ramsgate in safety. The captain was stated to be a very young man, and that he was anxious to show himself "smart" by making a quick voyage; that he had never signalled for a pilot at Dungeness; that he had never been through the Straits but *once* before, and then in charge of a pilot; that he had no proper charts to guide him; that he was quite ignorant of the peculiar set of the tides in those waters; that he had neglected to take soundings: and, lastly, that he seemed to be entirely unacquainted with the various lights and their special bearings; and even the enormous buoy on the South Goodwin failed to attract proper notice, although he admitted that he had passed it quite close on the port side!

When the case of the 'Paul Boyton' was subsequently brought into the Wreck Commissioners' court, Mr. Rothery, the Commissioner, in giving judgment remarked that "the vessel had not been navigated with proper or seaman-like care . . . . and that numbers of vessels were lost by captains continuing their course recklessly in order to make quick passages . . . . and cargoes were thrown away, and the lives of seamen risked, because the master wished to show what a smart man he was, and how quickly he completed his

voyage." If there are many such as the captain of the 'Paul Boyton'—and it is to be feared that there are, indeed—can it be a matter of surprise that there are frequent wrecks on the Goodwins, or on any other similarly dangerous sand-banks, where the most accurate knowledge and the most careful steering are alike required to escape destruction?

And yet here we have an instance of a very young man steering through one of the most dangerous spots in all England wholly without experience, without even a knowledge of the lights surrounding these treacherous waters, ignorant of the very peculiar set of the tides, with no proper charts, and neglecting to take soundings, and even to notice the huge South Goodwin buoy. Such utter reckless carelessness in the master of a ship becomes little less than criminal when carried to such an incredible and selfish extent, the more especially when the lives of the crew and the property of the owners of the vessel are taken into consideration.

The 'Freden.'

On the 21st November, 1880, a fine Norwegian barque so named, during a tremendous gale from the E.N.E. with a fearfully heavy sea, went ashore early in the morning on the East Goodwin. In a surprisingly short time after her signals had been seen, and considering the great distance to be traversed, the Ramsgate lifeboat, in tow of the steam-tug as usual, managed to reach the wreck just in time to take off the master and ten hands (though not without great

difficulty and danger, and landed them in safety), when the unlucky ship soon went the desolate way of all wrecks on the fatal Sands, when exposed to the irresistible and overpowering force of heavy gales and raging seas.

The 'Ganges.'

A terrific gale had been blowing on the 21st October, 1881, which had been severely felt, not on the Goodwins only, but in many parts of the country on shore as well, where very much serious damage had been done. Towards evening of that day a large vessel, the 'Ganges,' loaded with railway iron for Calcutta, was observed beating down the Straits for the purpose of gaining the safety of the Downs, when suddenly what sails she had set were entirely blown away, and she soon struck on the inside of the Sands just opposite Deal. The lightships' rockets were quickly answered from Ramsgate, Deal, Walmer, and Kingsdown, and the lifeboats started at once. The Deal boat seems to have reached the wreck first, and, after the usual desperate elemental battle, these brave-hearted "storm warriors" got off the captain and part of the crew. Of the remainder, five tried to save themselves in a boat, which, however, was almost instantly swamped, and four were drowned, but the fifth was thrown back, and somehow, by a singular chance, managed to reach the ship again. Strange to say, this very same man had been already twice wrecked on the Goodwins, and twice saved, this making the third time; and another of the rescued crew had been

in one of the wrecks of the previous year, and had been saved on that occasion also by the Deal lifeboat.

It was reported that a steam tug called the 'Napoleon,' which had the same night gone out to a vessel showing signals of distress, had not been again heard of, and it was feared that she and her crew of nine hands had been lost. Such is the every-day work on the Goodwin Sands!

We are solely indebted to the Rev. John Gilmore's delightful book 'Storm Warriors'* for the following interesting stories of wrecks on the Goodwins, which serve to illustrate very forcibly, not only the extraordinary and almost incredible endurance, but the marvellous skill and courageous daring invariably exhibited by the lifeboat men and hovellers when battling with winds and waves in their noble missions of mercy.

The 'Effort,' from the Forth to Rotterdam, ran on the Sands, and was thrown over on her beam ends, with the tops of her masts right down on the Sands. This was seen from Ramsgate, and the steamer 'Aid,' with the lifeboat in tow, at once put off to her assistance. The 'Champion,' a splendid Ramsgate lugger of 22 tons, had already gone out to the Sands some hours previously (on a "speculation" trip, as the weather looked "dirty"), and, on discovering the wreck, had

* As all these accounts are here necessarily very greatly abridged, the reader is referred to the work itself for fuller details. See p. 13, footnote.

rescued the crew in her small boat. But the great difficulty now was how to get back again, through the surf, to the lugger, and the most desperate efforts were made again and again to do this; but owing to a heavy gale springing up, accompanied by snow and sleet, and a thick fog, it was impossible even to *find* the 'Champion,' and, had not the lifeboat arrived just in the very "nick of time," and taken the lugger's boat in tow, the occupants must have inevitably perished, by being driven into the broken water on the edge of the Sand, where only a lifeboat could possibly live. As it was, both the boats were entangled for hours beating about the Sands in the darkness, fog, and sleet, until they came upon the 'Gull' lightship, and, guided by its friendly rays, they soon fell in with the 'Champion' and the steamer, and ultimately reached Ramsgate with the rescued crew in the lifeboat. These unfortunate men had passed the previous night in clinging to the rigging of the vessel, the heavy waves continually breaking over them, exposed to the snow and sleet driving with the full force of the howling tempest, nearly smothered with the surf and spray, and half frozen with the intense cold. The very thought of such suffering makes one shudder, and marvel greatly that flesh and blood could possibly stand such a fearful trial.

But the story of this terrible wreck, as illustrating the dangers of hovelling, is not yet finished; for it was very nearly ending in the loss of six fine fellows, part of the crew of the 'Princess Alice' (melancholy and suggestive name!), a magnificent hovelling lugger of Ramsgate, which had gone out shortly after the lifeboat with the

intention of trying to save what they could from the wreck. On nearing the stranded ship, the lugger anchored just outside the Sands, and sent in her small boat, with six men, to see what they could find. Everything was washed out of the vessel, and the men endeavoured to cut away the rigging, but, whilst so doing, the sky darkened, the tide rose rapidly, and a sharp snow-storm, accompanied by a heavy gale, came on, and so great was the danger that the men hurried to their small boat to regain the lugger, which was lying but a quarter of a mile off—aye, a quarter of a mile only, but unhappily, between the boat and the lugger, a fearful surf was now running with the tide, to enter which would be simply certain death. The men, therefore, tried to work their way through Trinity Bay for the Downs; but it was fearful toil rowing in such water, and nothing but the most consummate skill of Penny, who was acting-coxswain, prevented the small boat from being swamped at any moment by the huge rollers. As it was, she was half full of water and only kept afloat by constant baling. At length they reached the Downs, and after much difficulty made themselves heard by a large American ship riding at anchor; but, from the very small size of the boat, the greatest danger and risk still existed of her capsizing, which would possibly have happened but for the ready and thoughtful tact by which the American crew managed to secure the boat by double lines, and ultimately the six men were hauled on board through the raging sea. The American captain was so amazed when he heard that these men had been beating about the Goodwins for many hours in such a cockle-shell of

a boat, that he could hardly credit their statement—it seemed to him so utterly impossible.

The Portuguese Brig.

Another remarkable story is told of the loss of a Portuguese brig, which had gone on the Sands, and there remained, hard and fast, in an upright position. With great difficulty, owing to the heavy beat of the sea and to the vessel rolling from side to side in the soft sand, the Ramsgate lifeboat succeeded in getting off her crew, thirteen in number; but, when she attempted to get away herself from the dangerous vicinity of the wreck, she grounded heavily on a sand-bank almost within reach of either the hull or the spars of the brig. Had the wreck rolled over—as Jarman, the coxswain of the lifeboat, fully expected she would—and fallen on the lifeboat, the latter must have been crushed to pieces, and every soul on board would have perished—no earthly power could possibly have saved them. Providentially, however, that was not the case, and after a desperate struggle for many hours, during which the lifeboat grounded over and over again, the gallant crew at last got clear; but having, in the darkness, missed the steamer, they managed to sail back to Ramsgate with the shipwrecked crew safe on board, where they arrived early in the morning, and were followed shortly after by the steamer. The captain and crew having been under the painful impression that the lifeboat and all on board were lost, were astonished beyond measure—and not a little delighted—to see the lifeboat already quietly lying at

her moorings in the harbour, and to find the crew all safe and well.

The 'Mary.'

A schooner of 170 tons, laden with coals, bound from Shields to Dieppe, about Christmastide ran on the Sands at 4 in the morning, in a terrific gale of wind and a snow-storm, which had the effect of hiding all the Goodwin lights. The schooner's signals having been seen, the Ramsgate lifeboat, in tow of the steamer, at once started on her glorious mission. On approaching, they found the wreck drifting over the Sands, and dragging her two anchors after her. The lifeboat men, however, boldly made for the wreck, threw their grappling-iron on board, and hauled up alongside for the shipwrecked crew to leap on board; but, just at the very critical minute, a tremendous wave struck the boat and snapped the ropes of the grappling-iron like threads, and carried her away. Again she made for the wreck, again she ran alongside, strong ropes were again made fast, and the suffering crew were again preparing to jump, but the fierce waves flew over the boat in such fearfully rapid succession that the crew were nearly beaten out of her by the sheer force and weight of the water, and had she not been a lifeboat she must have been swamped and sunk long before. Stout hempen rope can stand a good deal, but nothing seemed able to resist such fearful odds in this battle of winds and waves, and the boat was again torn away from the ship's side a second time, leaving the miserable sailors in utter despair.

One, however, did make a desperate leap, but only to strike the bow of the boat as she was drifting away, to fall back stunned and helpless into the sea, there to find a grave amongst the roaring, lashing breakers.

The sagacious coxswain, Jarman, now determines, as the wreck is drifting slowly towards them, on the bold and daring expedient of anchoring the lifeboat right in her way, and so sheer alongside the schooner as she drifts past. The anchor is, therefore, let go, the schooner comes lumbering on, and the greatest skill and address is now necessary to keep the lifeboat clear of the wreck and yet near enough to allow the unfortunate crew of four to jump aboard. It is a moment of intense and anxious suspense. The cable is paid out, she nears the wreck, and, as a wave lifts her close, three men out of the four leap on board. There is yet another—the captain—left on the wreck; the lifeboat must go in again to his rescue. "Be ready," shouts the coxswain; "'tis your last chance; jump for your life!" And, as the boat sheers in for a moment, the captain makes a desperate leap, and falls headlong in amongst the men, and all the four are saved.

Exactly as in the last case, the lifeboat missed the steam tug in the tempestuous darkness, and therefore the mizen and fore-sails were at once hoisted. This threw the boat so much over that her lee gunwale was under water, to the intense astonishment of the rescued Scotchmen, who, not knowing the wonderful properties of the lifeboat, declared they had never yet seen a boat that "could sail *under* water," as this one did so readily and so rapidly. As the storm still raged with unabated fury, the lifeboat sailed down the coast, under

the protection of the cliffs, for Dover Harbour, to be followed, very shortly after, by the steamer; the captain rightly judging, from the state of the wind, that the lifeboat would seek the shelter of that refuge. Jarman and the crew ran to the pier-head to welcome the tug with a hearty cheer, and to show that they were all safe and sound.

The 'Linda'

is the next wreck noticed by Mr. Gilmore, a brig of that name which was lost close to the South Sand Head lightship in a thick winter's fog—so thick that the crew could not even see the bright lamps of the lightship, and were quite unaware of their very near proximity until startled by the loud boom of her signal gun close to them, which was to give warning on shore that a ship was on the Sands. It was the old sad story with this unfortunate ship; she had no sooner struck on the Sands than, overwhelmed by the terrific waves, she began to thump and bump with such extreme violence that she soon broke up. But the captain and four men got into the *maintop and main rigging*, whilst the remaining seven took refuge on the foremast. In a very short time the ship's timbers began to part, the foremast went "by the board" with a tremendous crash, hurling the seven poor fellows to instant death. Almost at the same moment the mainmast was carried away, and the five men were thrown with fearful violence in amongst the wreckage, by which both the captain's legs were broken. The men managed to cling to a broad piece of the poop

deck, to which they lashed the unfortunate captain; and on this frail raft, through the fog and darkness, half-smothered with spray and water, and nearly frozen with the cold, these ill-fated sailors drifted about for fifteen hours, until rescued by an Antwerp pilot-boat and taken into Deal, where they received every possible comfort and attention. But, it may be fairly asked, how is it that the lightship's signals were unheeded? They were by no means unheeded, for the two lifeboats from Deal and Walmer were quickly afloat, and speeding to the rescue, first having duly answered the signal After cruising round the Sands for a considerable period, during which the Walmer lifeboat was upset twice, but righted herself again immediately, they could find nothing, and see nothing whatever of the wreck, for the simple reason that the doomed ship had gone to pieces before their arrival, and the five men on the raft had drifted, in the stormy darkness and fog, far away to the east. The lifeboats therefore, finding there was nothing to be done, reluctantly returned to the shore from their dangerous and fruitless journey.

The 'Amoor.'

Almost immediately after this last wreck, the Ramsgate lifeboat and steamer were ordered out at seven in the morning to the Sands, in consequence of signals from the Gull Lightship. On nearing the Sands the steamer spoke the lightship, and ascertained that a large vessel was in distress close by. The lifeboat men were not long in discovering her,

and she ultimately proved to be a large brigantine laden with coals, bearing the above name and hailing from Elswick, with a crew of Germans. The rescuers found her high and dry on a ridge of sand, as the tide had gone down. At eleven o'clock the previous night she had struck on this ridge, and had been forced and bumped by the waves a distance of nearly four miles through the shallow water—fortunately keeping in an upright position—whilst the crew expected every moment that she would get into deep water, well knowing that if she did so she would immediately sink, from the shattered and strained condition of her timbers. And thus, in an agony of suspense, clinging to the rigging, in the pitchy darkness and bitter cold, did these unfortunate and suffering men pass that dreary night, with the prospect of death before them at any moment. At length the ship grounded heavily, and in a short time began to break up; but, as the tide had gone down, the crew were able to descend on to the ridge of sand, and immediately set to work to construct a raft of the broken timbers, when they were shortly afterwards seen by the Gull Lightship. Signals were at once made, by gun and rocket, for the lifeboat, which ultimately reached the Sands, when the anchor was forthwith let go, and three of the crew jumped out, and wading through the gullies, waist-deep in water, made their way to the raft, to the intense joy of the shipwrecked men. "A strange meeting," says Mr. Gilmore, "on that wild and stormy morning, there, on the centre of the Goodwin Sands, where the waves had raged so furiously only a few hours before, and would in a few hours more rage

as furiously again; there, where the shipwrecked men had expected to die a tragical death, the sailors and boatmen stand heartily greeting each other; the lifeboat men rejoicing almost as much at being there ready to save the poor sailors, as they at the prospect of being saved!" Before leaving, the lifeboat men managed to climb into the broken ship, on the chance of saving any small valuables, but they found nothing but a crushed and shattered mass of timbers, and a poor shivering dog, which the good-hearted men, with that kindly feeling so peculiarly characteristic of sailors, managed to bring away with them and save.

The difficulty now was to gain the lifeboat, anchored amongst the breakers, which were lifting her, and beating her about, with much violence; for the shipwrecked crew were terribly exhausted, having had to wade through several deep gullies already. Life-lines were therefore thrown from the boat, and several of the crew nobly jumped overboard to help the poor weak sufferers through the cold and freezing water; and so, each helped by a lifeboat man, they were all at last got on board, to be shortly after received with shouts of hearty greeting, and treated with the tenderest care on landing at Ramsgate. It is specially pleasing to have to add that the Grand Duke of Mecklenburg-Schwerin, in his admiration of the generous and fearless conduct of the lifeboat men, presented to each the sum of ten shillings, a certificate of merit, and a silver medal.

The 'Providentia.'

One dark dreary morning in the month of December, 1850, a ship was discovered by the men in the watch-house on Ramsgate pier, through the intervals of the driving snow and fog, to be aground on the South East Spit of the Goodwins. She turned out to be the 'Providentia,' a Russian ship from Finland, 700 tons, from Newcastle to the Mediterranean, laden with coals. Shortly after she struck, eleven of her crew escaped in the long-boat, and fortunately reached Boulogne in safety, leaving the captain, the chief and second mate, and a boy on board.

On nearing the wreck, which was rapidly breaking up, and surrounded by spars and wreckage, the life-boat, with great difficulty, got a line on board, but could not approach near enough for the crew to leap. The captain, however, tried to slide down the rope and so gain the lifeboat, but the furious waves soon knocked him off into the boiling sea. A life-buoy was instantly thrown to him from the boat, he seized it and got it under his arms, but was soon seen to drift away in the snow and fog, and given up for lost by the lifeboat men. The chief mate, in attempting to follow his example, was instantly drowned, but the second mate was more fortunate, and managed to reach the lifeboat, into which he was dragged by the powerful arms of two of the crew. Still there was the poor little boy; the gallant lifeboat men declared they would not leave without him, although they well knew that the greatest danger and difficulty would be experienced in

veering in to the wreck sufficiently near to rescue the boy, whose piteous cries went to the very hearts of these generous sailors. He was holding on to a fragment of the broken deckhouse when a tremendous sea flew over the wreck and washed the poor little fellow into the rolling breakers; but the set of the tide carried him towards the boat, when, almost by a miracle, he was caught on a boat-hook and hauled into the boat in a state of the greatest exhaustion. He was soon brought to by the intelligent exertions of the men acting under the instructions issued by the Lifeboat Institution, and then carefully placed under a sail to keep him as dry as possible. The escape of the lad was not a moment too soon, for the lifeboat had scarcely left the wreck when her remaining mast went over the side, the vessel at once broke up, and was soon after buried in the hungry Goodwins! The boat now sailed down the Sands nearly for two miles, anxious to recover the body of the captain, which, lashed to a life-buoy, they knew would not sink. What was their unbounded astonishment to see, amongst the roaring breakers, the waving of arms, and to hear the shouting of a voice! They steered at once for the spot, and there found the captain, who had been drifting about for hours, lashed to the life-buoy, in the bitter cold water below, with the freezing wind and snow above; and yet he was actually alive! He was, after much skilful management of the boat, got on board, but in such an exhausted condition that he at once fainted. He, however, soon recovered, and managed to swallow a little rum, and was then able to tell the men that he was by birth a Russian Finn. "This fact," Mr. Gilmore adds, "at once

accounts for his wonderful powers of endurance in his long exposures to the beating of the waves, and the coldness of the water, for the Finlanders are the hardiest of sailors."

The 'Aurora Borealis.'

A Danish barque of this name, with a crew of ten, got on to the Sands, on the night of the 5th of January, 1867, during a bitterly cold and driving snowstorm. A gun was heard from the Gull Lightship, and the Ramsgate lifeboat and steamer started to the rescue in an incredibly short time. They learnt from the lightship that a vessel was in distress somewhere down southward. Up and down the fatal Sands they sailed without success—they could see nothing of any vessel at all. Instead of quietly returning home, these brave and generous fellows determined to remain out *all night* and wait till day, so that no chance might be lost. The morning broke dull and cheerless, to find the gallant crew nearly frozen from the intense cold, and the waves constantly washing over the boat. They prosecuted their search, however, but still could find nothing, not so much as a floating spar. The unfortunate vessel had apparently broken up, and had been absorbed in the Sands, and her crew, no doubt, had been lost with her. Her name would never be known, but it may be amongst those recorded in 'Lloyd's List' under the short but melancholy and significant heading of "Missing." Some such thoughts as these might possibly have entered in the heads of the lifeboat crew; and they returned to Ramsgate thoroughly disappointed. The boat was, however, again started,

almost immediately, with a fresh crew, except the coxswain and bowman, for another careful search, so great is the anxiety expressed by the men, remembering what a fearful night of storm and hurricane has past.

On approaching the more exposed part of the Sands, the boatmen now manage to make out through the gloom a large vessel, which proved to be the above-named barque, aground and heeled over, the sea flying completely over her with a tremendous roar. On approaching the wreck the lifeboat got into the broken water, which half buried her, and tossed her about in every direction, until she became almost unmanageable. They contrived, however, to get close to the ship, when an enormous wave fell down upon them and buried both boat and crew under water, driving her quite away from the ship. Anything but a lifeboat would, of course, have been immediately lost under such appalling circumstances, but the air-boxes brought her instantly to the surface, and the clearing valves at once emptied her of water. Again she was towed by the steamer, again she was alongside and preparing to receive the terrified shivering crew, when she was a *second* time driven bodily back by the terrific sea. Nothing daunted, the boat and her fearless crew was again, and for the *third* time, towed into position, and again cautiously approached the wreck, only to be a third time beaten off by the ruthless waves. The steamer then boldly entered the broken water, threw out a tow rope, and again took the boat in tow, intending to sheer her right under the stern of the wreck; but the steamer had a dangerous time of it, for the sea continued to break over her, and to deluge her deck with tons of

water. On she went, however, but just as the lifeboat reached the wreck the strong tide and heavy sea, for the *fourth* time, whirls her away again, and the steamer, not without great difficulty, made her way out of the broken water. Positively determined not to lose the poor sufferers on the wreck, the crew one and all declared, "We will not go back without them;" but, exhausted, wet through, and half frozen, the question is "What to do next?" The steamer now comes on again to try to fire a rocket over the ship, but she is herself thrown on to the Sands this time, and had she not been a steamer and possessed of powerful engines which enabled her to back off, she would in her turn have inevitably become a wreck. Thus the *fifth* attempt failed. The steamer now again took the boat in tow; but not a word was spoken, the greatest anxiety and excitement prevailed, and whilst preparing for their *sixth* attempt, the noble-hearted sympathy and determination of the lifeboat crew forgot weakness, cold, and exhaustion, everything indeed but their glorious errand of mercy! "What, leave these poor fellows to perish before our very eyes? No, please God, *that* shall never be said!" So, after a short consultation, the plan now settled upon was to "charge" in upon the vessel, and throw the boat's anchor right in upon her deck! A desperate scheme truly, and one that will either save all or lose all! The lifeboat was now accordingly steered straight for the wreck, and hits her full end on, and almost leaps upon the vessel's deck; the anchor was at once thrown on board, and the next sea, most fortunately, carried her off clear of the wreck; but the grappling iron is also thrown on board and made fast, and between the two the boat is held

sufficiently close for the crew to jump or be dragged into the lifeboat, but only by the efforts of the most determined and persevering patience, courage, and consummate skill combined. And thus, after a sixth attempt, the crew were all saved at last. The lifeboat put them on board the steamer, and they reached Ramsgate about 2.30 in the afternoon, to be greeted by loud and long cheers from the pier on seeing the flag flying at the lifeboat's masthead, a sign always adopted when a rescued crew is on board.

In recognition of the extraordinary bravery displayed by the crew of the lifeboat, and their courageous endurance, the Board of Trade presented the generous and magnificent sum of a sovereign to each of the twelve men composing the crew; a truly noble gift for such dangerous and desperate work, and well worthy of the richest maritime country in Europe! The King of Denmark sent 200 rix dollars to be divided amongst the men, which, taking that coin at 4*s.* 6*d.* sterling, would give just £3 9*s.* per man.

The 'Mizpah.'

This was a schooner of Brixham. She was sunk near the North Sand Head, but the whole of her crew, eight in number, were rescued by the Ramsgate lifeboat on the day following the wreck of the 'Aurora Borealis' last described, namely, the 6th of January, 1867, making eighteen lives saved by this boat in two days. Noble and glorious work truly!

Thus far Mr. Gilmore.

One of those very sad and mysterious occurrences which, unhappily, so often happen on the Goodwins, namely, the sudden and total disappearance of a vessel after she has struck, took place on the 30th November, 1888, when a large barque was seen from Deal beach to go ashore on the Sands about 9 o'clock a.m. The Kingsdown lifeboat was instantly manned and put off to the wreck, and did not return to the shore until nearly five hours afterwards. Although the boat cruised about round and round the spot, and made the most careful search in every direction, the crew could discover *no traces whatever* of the unfortunate vessel, not so much as a spar or a timber! All they did find was an empty ship's boat; but as this had no name on it, there was nothing to identify the lost ship; and, as every soul on board had perished, her name and nationality will never probably be known for certain, and she will be entered in the melancholy list of "nameless wrecks." The amazingly rapid and sudden disappearance of this barque excited much curiosity, as there was an air of singular mystery about it, although such occurrences have before now frequently happened on these immense sandbanks; but, for a ship to be actually seen to strike, and then totally and bodily to disappear before even the lifeboat could reach her, is singular indeed. She was seen to strike, and immediately to fall over, and is supposed to have broken up and sunk at once. The Dover Harbour tugs went out afterwards and made a careful search, but saw nothing, found nothing!

Although acts of high courage and unselfish bravery are common enough at all times when life is in danger in the neighbourhood of the Sands, yet the following

instance of gallantry may be not out of place here. So recently as the 11th of February, 1889, during a blinding snowstorm, accompanied by a heavy squall of wind, distress guns fired from the East Goodwin Lightship were heard by a party of hovellers who were cruising off the Sands in their lugger the 'Hope' of Deal. They immediately went in search, and soon fell in with a small ship's boat belonging to the barque 'Leonidas,' which had got on the Sands, and had, together with both of her large boats, already broken up. The remaining boat contained the crew, fourteen in all, who were in a most pitiable condition, nearly frozen, wet through, and up to their knees in water, with nothing before them but the prospect of a speedy death, as their small and leaky boat could not possibly have held out against the prevailing wind and sea very much longer. The unfortunate crew were quickly transferred to the 'Hope' lugger, a service of danger and difficulty in which the Deal hovellers invariably exhibit a peculiar tact and judgment, only acquired by constant practice under the most trying and perilous circumstances. As soon as the rescued crew were got on board the lugger, she was struck and nearly swamped by a tremendous sea; and, but for the skill and dexterity of the crew in pumping and baling, it is doubtful whether she would ever have reached the shore. The public will hardly believe, in this land of boasted charities and rewards for bravery, merit, and good conduct in every shape and form, that no acknowledgment of any kind is provided for a gallant rescue of life such as that here recorded. Had these men saved fourteen chests of tea instead of fourteen

human lives, they would doubtless have been substantially rewarded; for it is well known that worldly property is thought far more of than human life by the laws of money-grubbing, money-loving England. The only reward in such a case must be the cheering remembrance, by a brave heart, of the accomplishment of a noble, unselfish deed.

Captain Martin, for many years Harbour Master at Ramsgate, and a very high authority on such a subject, gives it as his opinion that many of the wrecks on the Goodwin Sands are attributable to "gross neglect of the commonest precautions as well as great carelessness in navigation,* to which may be added *excessive competition*, that is, to crack on with all canvas to overtake and leave behind all competitors," and he proceeds to give one or two remarkable instances.

A ship passed Ramsgate one very thick dark evening. A Deal lugger offered to pilot her through the Sands for five pounds, but the offer was refused. The Deal men then strongly advised the captain to wait, as the weather was foggy and very dangerous. The reply was characteristic enough: "Can't wait; my opposition is astern of me." And the consequence of this was—as might have been expected—that, without a pilot, and in thick weather, the unfortunate ship "struck on the Sands," and every soul perished.

Another singular instance of ignorant confidence is given in the narrative of an American captain. Twelve ships left the Scheldt together, but four only hit the course through the Straits of Dover, whilst the other eight, "with a heavenly breeze," as the captain called

* See *ante*, the 'Paul Boyton,' p. 189.

it, were leisurely sailing—not through the Straits as they supposed—but into the Thames, believing the North Foreland Light, which appeared on the port beam, to be Blanche Nez Lighthouse! This went on until, again quoting the outspoken captain, "my ship being the fastest, I guess, took the ground, and my companions took the hint and just let go anchors in time; but, as I was their beacon, I calculate it would have been only fair to have sent their boats to help me out of the scrape. But no; a Margate lugger comes alongside and sings out. 'Do you know where you are?' says he. 'Not exactly,' says I, ''spose it's the Varne.' 'Ha! ha!' says he, 'you're on the Long Sand off Margate,' says he. However, I've no fault to find with the lugger's men; they carried out a heavy anchor and chain, and ought to be handsomely paid for the work they did so well." So much for ignorance when steering over dangerous waters.

Another, and still more remarkable instance of ignorance and carelessness, followed by ingratitude and insolence, is related by a party of Deal "hovellers" who had anchored their boat in Trinity Bay (see chart) and, as a thick fog had come on, they had composed themselves for a *quiet sleep* under the sails of their boat. We, as dull stay-at-home landsmen, can hardly realise the comforts of a "quiet sleep" in an open boat, during a thick fog, on the Goodwin Sands of all places in the world! But so it was, and they were just dozing off as easily as though reposing on a down bed, when they were unexpectedly startled by being run into by a ship with all her sails set. "Let go your anchor, you lubbers, you're on the Sands!" shouted the disturbed

hovellers, leaping to their feet in an instant. A contemptuous reply only was vouchsafed, and on to the Sands the ship was accordingly driven, *with all her canvas set*, and that too in a thick fog in Trinity Bay! Sailing ahead in such trim, with no sounding lead kept going, as any apprentice boy would have known should have been done in such highly dangerous ground, what else could have been expected? An instance of much greater foolhardy daring and reckless ignorance—sheer madness indeed—it is impossible to conceive. The hovellers assisted to get the ship off, and being high water they, after much labour, fortunately succeeded, only to be repaid by impudence and insult. Let us hope that the graceless captain and crew were not English; although, oddly enough, that language appeared to have been very freely spoken by all on board—*with an accent!*

It certainly seems somewhat surprising—at least to landsmen and outsiders who are not supposed to be acquainted with the details of such matters—that so seldom attempts appear to be made to pull off into deep water ships which have run on the Sands, especially in these days of steam-power and of all other scientific appliances; but doubtless there is some very good reason for this. And yet this could be done two hundred years ago with marked success, for it is recorded by Hasted that, in the year 1690, the 'Vanguard,' a man-of-war of ninety guns, was driven on to the Sands in a fierce gale of wind, and would, of course, have gone to pieces in due time, like the Norwegian barque 'Honi Sverne,' had she been left

there; but, thanks to the laborious perseverance and energetic assiduity of the Dealmen in their boats, she was ultimately got off and floated again, with very little damage to her timbers. How this feat was accomplished Hasted does not tell us; but as neither steam tugs nor chain cables were known in those days, it would be interesting to ascertain what were the means employed to move so heavy a body as a ninety-gun ship with all her guns, stores, and crew on board, when fast grounded on so tenacious a sandbank as the Goodwins. Let us venture to hope that, in rewarding so great and signal a service as the saving of a man-of-war and all on board from almost certain destruction, the Government of William and Mary were a little more liberal and large-hearted than their parsimonious representatives of modern days, who seem to consider that unreasoning economy is an established canon and the height of departmental virtue.

Again, no later than 1881, the barque 'Chaudière,' from New Zealand to London, 500 tons, got ashore on the Sands, when two luggers of Deal and Kingsdown, the 'Arrow' and the 'Lucy,' went to her assistance, and with the help of the tug 'Victor' the barque was got off and rescued from her danger, and her cargo and crew saved. The 'Chaudière' and her cargo were valued at £47,300, and for saving both from total destruction the owners had the conscience to offer to the boatmen who had rendered this great service the paltry sum of £200. This was indignantly refused; and on bringing an action in the Admiralty Court, Sir Robert Phillimore awarded £400, and little enough too

considering the nature of the service done, and the great danger attending it to both life and property. Remembering the contemptible meanness of the first offer, we ought to state, in case of any misapprehension, that the vessel was owned by a private firm.

CHAPTER VIII.

THE LIFEBOAT.

Original inventor—First patent in 1785—Apathy of the Admiralty—Lukin's tomb—Fearful shipwreck at South Shields—First Lifeboat started in 1790—Duke of Northumberland's Lifeboat—Rewards to Greathead—Sir William Hillary's appeal—Foundation of the Lifeboat Institution in 1824—First Lifeboat built under the Institution in 1826 stationed in Isle of Man—Three others followed—Gradual progress—Gradual decline—Another terrible wreck at Shields in 1849—Capsizing of Lifeboat and loss of life—Re-organization of Lifeboat Institution—Prize competition—Prize won by Beeching—Improved on by Peake—Revival of Lifeboat interest—"Civil Service Lifeboat Fund"—Cost of boats—Description—Improvements—Methods of propulsion—"Transporting carriage"—Boat-house—Appliances—Lifeboats nearest the Sands—Interesting statistics.

As the lifeboat is so intimately connected with the dreaded Goodwin Sands, and has been the means, under the guiding providence of God, of saving hundreds of lives that would otherwise inevitably have been lost there, a short sketch of its origin and progress may not perhaps be considered out of place here as one of the concluding chapters.

In most great or important inventions the genius who originated the very first idea, involving the special principle, is, generally speaking, forgotten, or nearly so, in consequence of his original but crude ideas being

improved upon by subsequent inventors, until finally perfection is supposed to be obtained, and the last man in the field usually gains all the glory, although he may not have actually *originated* any idea whatever of his own, but merely improved upon those which he found ready made to his hands. So it is with the invention of the lifeboat. Everybody knows the name of Beeching of Great Yarmouth, but we question whether one person in ten ever heard of the ingenious coachbuilder of Long Acre, Lionel Lukin by name, who is generally admitted to have been the first who conceived the leading idea of making a boat that would not sink, by means of *air-boxes* and cork; and this, after all, is the grand principle on which all lifeboats have been since constructed. although that idea may have been much extended and elaborated by the intelligence and ingenuity of subsequent inventors.

As the originator of the one great principle of construction which is now so admirably and universally carried out, we claim the honour for Lionel Lukin, a native of the inland town of Dunmow, Essex, but, in after life, a very successful coachbuilder of Long Acre. Having conceived the idea of constructing what he called an "unimmergible boat," he fitted a Norway yawl, first, with gunwales of cork; secondly, with air-boxes, or compartments, running from stem to stern inside; thirdly, two further air-boxes, one head, the other stern; and fourthly, a heavy keel to ballast the boat. For this he took out a patent in 1785, but although the boat was found to answer admirably, yet Mr. Lukin's appeals to the Lords of the Admiralty and the Master of the Trinity House, backed by the liberal

patronage and encouragement of the Prince of Wales (George IV.), were all in vain. "My Lords" had never heard of such a thing before as an "unimmergible boat," and therefore, with the usual dulness of the official mind, they never took the trouble even to inquire into the merits of the new invention, and so, as a matter of course, nothing was done; not a lifeboat of any kind was placed on the coast, excepting one single instance, and that was entirely due to the large-hearted munificence of a private individual, the Rev. Dr. Shairp, Vicar of Bamborough, who, in 1786, caused a boat to be made "unimmergible" by Mr. Lukin, and during the first year of her existence she was the means of saving very many lives, and the most satisfactory accounts were received of her performances. But, still, even after all this, "my Lords," with characteristic official apathy, could not, or would not see it, and no progressive steps were taken, nor does it appear that many of Lukin's lifeboats were ever constructed.

Lionel Lukin lies buried in the churchyard of Hythe, in Kent, where the visitor who is interested in such matters may read on his monument the following perfectly truthful record of his great invention:—

> "This Lionel Lukin
> Was the first who built a Lifeboat, and was the Original Inventor of that principle of safety by which many lives and much property have been preserved from Shipwreck: He obtained for it the King's patent in the year 1785."*

* History of the 'Lifeboat and its Work,' by Richard Lewis, Esq., Secretary to the Royal National Life Boat Institution. (Macmillan, 1874.)

Four years after this latter date—namely, in 1789—an appalling shipwreck was actually witnessed by the subscribers to the News Rooms at the Law House, South Shields, when the 'Adventure,' of Newcastle, was lost on the Herd Sand in the midst of the most tremendous breakers, the unfortunate crew being seen to drop one by one from the rigging into the boiling surf before their eyes, and actually within 300 yards of the spectators, whilst no one could be induced by the offer of either fee or reward to launch a boat or to attempt a rescue.* This terrible catastrophe made so deep an impression on the public mind that a meeting was called, a committee of gentlemen appointed, and premiums were offered for plans of a boat able to live in heavy seas or broken water.

This brought but two competitors into the field, Mr. William Wouldhave, a painter, and Mr. Henry Greathead, a boat-builder of South Shields. Wouldhave appears to have done little more than construct a boat in which cork was largely employed, whilst Greathead brought forward a model with a curved instead of straight keel, fitted and lined with 7 cwt. of cork, but without air-boxes, and to him the committee awarded the premium. A lifeboat was thereupon at once constructed by Greathead, and launched at Shields on the 30th January, 1790, in which not only his own plans,

* Without intending the smallest disrespect for the boatmen of South Shields, I cannot suppress a feeling that, had this ship stranded within 300 yards of Deal or Ramsgate, many a hoveller's boat's crew, quite regardless of any thought of gain, would most assuredly have tried their best at a rescue, even though they might have totally failed in the attempt, and lost both boats and lives in their gallant endeavours.

but those of Wouldhave also, were said to have been combined in the model adopted by order of the committee. This boat was 30 feet long, 10 feet wide, and $3\frac{3}{4}$ feet deep, and rowed ten oars, sails not being employed.

Although fairly successful, yet no other boat was built until 1798, when the then Duke of Northumberland ordered one to be constructed at his own expense by Greathead, and this being munificently endowed with an annuity for its preservation, he stationed it at North Shields. Another noble-hearted individual ordered a boat for St. Andrews, which proved so thoroughly seaworthy that Greathead received many orders for the building of lifeboats, and in 1803 there were five in operation in Scotland, and eighteen in England. The great utility of the invention becoming more and more apparent, Parliament awarded to Greathead—on his own application, though—£1200; the Trinity House and Lloyd's each added a hundred guineas. the Society of Arts fifty guineas and a gold medal, and the Emperor of Russia a diamond ring; and yet, notwithstanding all this, the number of lifeboats did not increase as might naturally have been supposed, but, on the contrary, a strange and unaccountable apathy seemed to reign everywhere but on the Northumberland coast, and little or nothing more was done until 1823.

That year, however, was rendered memorable in the history of the lifeboat by the powerful and eloquent appeal made to the nation at large by Sir William Hillary, Bart., a resident in the Isle of Man, where he had often witnessed the most harrowing scenes attending the loss of ships and crews, which appeared to have

made a deep and lasting impression on his warm and generous nature, and to have given him the idea of endeavouring to find some means of mitigating so terrible an evil. In this good work he found an able and willing coadjutor in Mr. Wilson, one of the members for the City of London, and on the 12th February, 1824, a great meeting was held at the London Tavern, and a further meeting on the 4th of March following, when the "Royal National Institution for the Preservation of Life from Shipwreck" was founded and established under the most favourable auspices. His Majesty King George IV. became patron, all the Royal Dukes vice-patrons, the Earl of Liverpool the president, a number of Bishops, nobility, clergy and gentry becoming vice-presidents and members of the committee, &c.

A "District Lifeboat Association" was immediately formed by Sir W. Hillary, on his return to the Isle of Man, and the first lifeboat started under its auspices was built by Mr. Plenty, of Newbury, and stationed in Douglas Bay in 1826, and three more followed in the years 1827–9, which were respectively placed in Castletown, Peel, and Ramsey.

During the first year of its existence the Royal National Institution for the Preservation of Life from Shipwreck established twelve lifeboats on different parts of the coast; these were in addition to thirty-nine already existing, the gifts of other private individuals, or belonging to local associations not connected with the new Institution. Besides lifeboats, Manby's rocket apparatus was also supplied by the Institution; but this was subsequently given up for want of

adequate means to carry it on, and it is now in the hands of the coastguard acting under the Board of Trade.

One of the most able supporters of the Institution was the late George Palmer, Esq., of Nazing Park, Essex, M P. for South Essex, who gave not only the weight of his influence, but turned his attention towards improving the build of the lifeboat as well; and his plans were only superseded so late as 1852, when the present self-righting principle was adopted.

When the Institution had been established just twenty-five years, public interest, which for some unaccountable reason had again been rapidly declining, seemed almost to have ceased, and the work was in a very low and depressed state. Many lifeboats fell into decay from being left too long out of the water, where wrecks were infrequent, no pains having been taken to keep them in proper repair, or even to float them occasionally.

Things were in this discouraging state when a wreck occurred at Shields, on the 4th December, 1849, the 'Betsy' of Littlehampton, having got on to the Herd Sand. The South Shields lifeboat, manned by twenty-four pilots, went out to her aid; but, on reaching the wreck, she was completely turned over, end for end, by a heavy sea, when twenty of her unfortunate crew were almost instantly drowned, and the boat shortly after drifted ashore *bottom up*. The two other smaller boats from North and South Shields immediately started to the rescue, and succeeded in saving the remaining four pilots, as well as the crew of the 'Betsy.' This melancholy event appears to have caused

a profound sensation, and to have had the effect of calling public attention once more to the work of the lifeboat, and to have roused the people from the extraordinary apathy with which for so long a period they had apparently regarded the subject.*

A new committee was immediately formed, the late Prince Consort and the late King of the Belgians each becoming a vice-patron, and the Duke of Northumberland ultimately becoming president, which office he held until his death in 1866. Sir Edward Perrott, Bart., Captain Washington, R.N., Admiral Sir W. Hall, and the late Thomas Chapman, Esq.†—after whom the Kingsgate Lifeboat is named—and other gentlemen of influence and scientific acquirements, also joined the Institution at this time, and by their energy and practical skill very materially helped on the good work.

In the re-organization of the Institution‡ the Duke of Northumberland most liberally offered a premium of one hundred guineas for the best model of a lifeboat,

* It is somewhat singular that, as the first great public movement in favour of the lifeboat took place in consequence of a terrible wreck on the Herd Sand at Shields in 1789, so the "revival"—if it may be so called—was occasioned by a second wreck on the same sand-bank in 1849.

† See Appendix No. 20, p. 296.

‡ In 1853 the title of the Institution was changed from "The Royal National Institution for the Preservation of Life from Shipwreck" to "The Royal National Life Boat Institution (founded in 1824) for the Preservation of Life from Shipwreck," at the instance of the Shipwrecked Fishermen and Mariners' Benevolent Society (founded in 1839), on the Society handing over to the Institution the few lifeboat establishments it possessed, together with the funds raised for their support, and the two societies have since continued to work together, "the one in saving life, and the other in fostering it when saved."

and a like sum to defray the cost of building a boat on the model chosen. Answers were received this time from all parts of England, as well as from France, Holland, and America, and 280 models and plans were sent in; and after a long, patient, and detailed examination of them all, the prize was awarded to James Beeching, of Great Yarmouth, as the successful candidate.

The first (or "prize") lifeboat built by Beeching was 36 feet long, rowing twelve oars, and was the first self-righting boat ever constructed. She was afterwards purchased by the Ramsgate Harbour Commissioners, and did good work there for many years.

Still anxious to carry out improvements, the committee directed Mr. Peake, Assistant Master Shipwright, of Woolwich, to construct a boat on Beeching's lines, but at the same time adopting any alterations or additions which a further study of the various prize models and plans already submitted might suggest. Another boat was accordingly built, and found to be greatly superior in her powers of self-righting, freeing herself from water, and other important points, and this is the model, with still further modifications and improvements suggested by practical experience, which is now universally adopted and may be seen carried out in most of the lifeboats now in use throughout the kingdom; "so that the lifeboat of the Institution," as Mr. Lewis observes, "may now be truly designated an *omnium gatherum*, and cannot be looked upon as any one man's design or invention"—except so far as the cork and air-boxes are concerned, which undoubtedly owe their origin to Lukin.

Since the "revival"—if we may be again allowed so to apply the term—in 1849, as already referred to, the National Life Boat Institution has been gradually rising in favour with the public, and its popularity is now a settled and undoubted fact, and a fact which is sufficiently proved by the amount of annual income, increasing from £354 in 1849, with 19 boats, to nearly £65,000 in 1888, with 293 boats.

As a singular proof of the popularity of the whole question, various public bodies, clubs, benefit societies, and other incorporations, have come forward at different times, and placed funds in the hands of the Institution for providing lifeboats in various parts of the country.

Amongst these may be specially mentioned the Life Boat Fund, raised wholly by the members of Her Majesty's Civil Service, which fund was established in 1866, and from a very small beginning has now (1889) risen into a large and important association numbering 9913 members, in which upwards of eighty of the public departments of the Civil Service are fully represented. Five boats have been already built and are maintained by the fund, but handed over to the National Life Boat Institution. The first is called the 'Civil Service No. 1,' and was stationed at Wexford in 1866; the second, called the 'Charles Dibdin,' was given to North Shields in 1875; and the third, the 'Civil Service No. 3,' is at Port Patrick, in Scotland; and in addition to these three a fourth boat, one of the finest ever built, was sent to Wexford in October, 1878, to replace the first 'Civil Service No. 1,' which had become nearly worn out, and which, during the twelve years of her active life, had aided nineteen ships and

saved 122 lives. Two others have also been given, 'Civil Service No. 4,' placed at Walmer in 1884; and 'Civil Service No. 5,' placed at Maryport in 1886.

To keep up so large a fleet as 293 boats, with their gear, carriages, and boat-houses, in constant repair and thoroughly efficient working order, requires per boat an income of £70 a year, after a first outlay of £1050 for boat, carriage, and boat-house; for, in constructing these splendid craft, no expense whatever is spared, the very best materials and workmanship that can possibly be procured for money being invariably employed by the National Life Boat Institution.

The lifeboat now almost universally adopted by the National Institution may be said to be as nearly perfect as the skill and ingenuity of highly trained and thoughtful minds, and the improvements suggested by practical experience, can make it. It has been said, with great truth, that this boat "possesses in the highest degree all the qualities which it is desirable that a lifeboat should possess," and it may be generally described as being 33 feet long, by 8 feet wide, and 4 feet deep—that is, over all—and weighs about 53 cwt.* They are built of mahogany on the diagonal principle, a mode affording great strength, copper fastened, with an iron keel 4½ inches deep attached to the wooden one, and fitted with five thwarts to row ten oars double banked. A kind of floor or deck is placed 1 foot 6 inches above the keel, the space between being occupied partly by air-cases and partly by cork ballast

* The largest is 46 feet 3 inches, rowing 14 oars, and is placed at Lowestoft, and the smallest is 25 feet, rowing 8 oars, at Southend, Essex.

weighing several hundredweight. Air-cases are fitted in the head and stern of the boat, both of which rise nearly 2 feet higher than her sides amidships, and the cases project into the boat from 4 to 6 feet, measuring inwards, from the stem and stern posts. Besides these, two additional air-cases are placed under the thwarts and running along the inside of the boat. The great amount of buoyancy in a 33-foot lifeboat, obtained by these admirable arrangements, is nearly 12 tons: thus, the end air-cases $4\frac{1}{4}$ tons, side cases $1\frac{3}{4}$ tons, air and cork under the deck $5\frac{1}{2}$ tons.

Two of the most remarkable improvements in these modern lifeboats are undoubtedly the introduction of "relieving valves," and the "self-righting" principle. By the first-named the boat frees herself, in a few seconds only, of water that may have washed into her, thus entirely obviating that troublesome and time-losing practice of baling. The valves are of gun-metal, and open downwards only, so that they immediately give to the pressure of water upon them, but effectually prevent the return of any water into the boat. By the second-named improvement, the boat has the singular property of instantly righting herself if turned over by a heavy sea, and this power is gained by the before-mentioned high air-cases, head and stern, which alone are sufficient to bear the whole weight of the boat if placed keel up in the water. The effect of this arrangement is that, if the boat is placed in the water keel up, she floats unsteadily on the support of her two air-boxes, with the heavy keel and ballast above the centre of gravity. The consequence is that this dead weight cannot possibly remain in such a position, and therefore falls

over on one side, and instantly brings the boat to her original position, whilst the water which may have been taken in, at once escapes through the relieving tubes, and the boat is again ready for immediate action.

Various methods have been suggested for propelling lifeboats—by paddle, screw, or turbine-wheel, and even steam and compressed air have both been proposed; but, on mature consideration, all these methods have been abandoned for the better known and more readily handled lug sail, or oar, the latter being even more general than the former; a system of propulsion which, as Mr. Lewis remarks, is not only the most ancient, but, after all, "the simplest and most effectual instrument of hand propulsion, and we doubt if it will ever be superseded." * Most of the lifeboats row ten, some of the larger twelve oars; but they are nearly all fitted with two masts and two lug sails, which have often proved of the utmost service where oars could either not have been used at all, or used only with extreme difficulty and immense labour.

Early in 1888, however, Messrs. R. and H. Green, the shipbuilders of Blackwall, offered to the Life Boat Institution a model of a steam lifeboat 50 feet long, with 12 feet beam, to be propelled by a turbine wheel, worked by an engine developing 170 horse-power. This model has been accepted, and the boat is now (October, 1889) very nearly completed.

Another ingenious arrangement has been made in the "transporting carriage," said to have been the invention of the late Colonel J. Nesbett Colquhoun, R.A., Director of the Carriage Department, Royal Arsenal,

* 'The Lifeboat and its Work.'

by means of which the boat, by the aid of two or more stout horses, can be conveyed by land from the boat-house to any part of the shore near to which a wreck may have happened. Nor is this all, for the carriage affords not only a rapid mode of transit, but a ready means of launching as well. The carriage is backed, as far as possible, into the water, and the boat, the keel of which rests on small iron rollers, is then rapidly run off by the aid of self-detaching "launching ropes." By means of this admirable invention the "lifeboat is made available for a greater extent of coast than she otherwise would be, and, even when launched abreast of the boat-house, can be much more quickly conveyed to the water's edge than she could be if not on such a carriage." *

The last of the improvements in lifeboat arrangements is the construction of a "house" to keep her in, and protect her from the weather when not in use. Mr. C. H. Cooke, the honorary architect of the National Life Boat Institution, has erected upwards of two hundred of these houses. They are of stone, with high pitched roofs and arched windows, and have something of an ecclesiastical look externally, and are altogether extremely ornamental in appearance. Here the boat is kept mounted on her carriage, with all her gear on board ready for instant use. Every boat carries a compass, a lantern for night work, life-lines festooned round the sides to enable persons in the water to climb up into the boat. Other life-lines are attached to corks to float them if thrown from the boat when alongside a wreck, and also a life-buoy with line attached. Besides

* Lewis's 'Lifeboat.'

this, she carries two grappling-irons fastened with strong lines, one head and one stern, to throw into the rigging of wrecked ships to enable the boat to hold on by; and last, not least, a good sharp hatchet.

The towns and villages which lie on the coast nearest to the Goodwin Sands are seven in number, and are all of them important lifeboat stations. The length, and other particulars, of the boats (1889), together with the names of the stations, are given below:—

Name of Station.	Name of Boat.	Donor.	Length in feet.	No. of Oars.
Kingsgate .	'Thomas Chapman'	N. L. B. Instn.	28	8
Broadstairs	'Christopher Waud' Bradford'	Late Mr. Waud	39	12
Ramsgate .	'Bradford'	Town of Bradford .	40	12
North Deal	'Mary Somerville'*	Her legacy .	42	12†
Walmer .	'Civil Service No. 4'	Civil Service Fund .	40	12
Kingsdown	'Charles Hargrave'	His legacy .	36	12
Dover . .	'Lewis Morice'	Mrs. Morice's . .	37	12

The whole of the lifeboat work on the Goodwins is performed by these seven boats, though perhaps Ramsgate, Deal, and Walmer do the most from their nearer proximity to the Sands. Ramsgate possesses the

* The former Deal lifeboat was called the 'Van Kook,' and was presented by Mr. E. W. Cooke, R.A., a very distinguished artist, and the painter of "The Return of the Ramsgate Lifeboat with the rescued Crew on Board," a striking and graphic picture, in which every small detail has been most carefully drawn, exhibiting a perfect and practical knowledge of the whole subject.

† A new boat, same name, placed here August, 1887.

immense advantage of having a harbour in which the lifeboat can lie in perfect readiness for action, with a powerful steam tug, with her steam up night and day, always ready, at a moment's notice, to take the boat in tow when starting on her perilous errand of mercy.

From the very interesting Report of the National Life Boat Institution it appears that, during the year 1888, 41 new lifeboats have been started, 30 more promised for 1889, and two new stations have been established, and there are now 293 lifeboats under the management of the society, dispersed over the coasts of England, Ireland, and Scotland. During that year (1888) the boats belonging to the Institution were launched 295 times, and rescued 626 persons and 26 vessels under peculiarly perilous circumstances. It may also be interesting to note that, in the last sixty-five years, 34,043 lives have been saved through the assistance rendered by the boats of this Institution, and that, during the same period, 1288 medals and glasses have been awarded—97 being gold medals—and £102,926 in money rewards, for saving life from shipwrecks on our coasts.

In this truly national work the expenditure, during the same year, amounted to nearly £65,000—a very large sum to depend almost entirely on donations and subscriptions; but the funds of this Institution should never be allowed to flag, for it is an association which ought most certainly to commend itself to all right-thinking and generous-minded people, not of the British Isles only, but of every nation whose ships sail the wide ocean, and whose sailors may, at any moment of great

danger and difficulty, be only too thankful to avail themselves of the ready and welcome assistance afforded by the boats of this Institution.

We cannot do better than conclude this sketch with the telling words of Mr. Lewis :— "The committee of the Life Boat Institution feel assured that it will never lack support so long as it maintains its fleet in the state of thorough efficiency attained at the present time, manned, as the boats of the Institution are on every emergency, by as fearless and noble a class of men as ever our Nelsons and Collingwoods led to battle to uphold our country's honour and glory." *

* 'The Lifeboat and its Work.'

CHAPTER IX.

PROPOSALS AND PROJECTS:—RECLAIMING AND BUILDING.

Martin's "suspended" Lighthouse, 1829—Bush's scheme, 1842—"The Prince of Wales Harbour of Refuge"—Reclaiming of land—Proposed erection of Lighthouses and buildings—Bush's single Lighthouse, 1852—Stevenson's "Rubble Cone" foundation for Lighthouses—Captain Vetch's breakwater and "Spinal Embankment," 1844—Formation of sunken wells for foundations, 1843—Rennie's proposed breakwater on the Brake Sand—A fortification project suggested by the Duke of Wellington, 1843—Many and various proposals submitted to the Trinity Corporation since 1845.

Mr. John Martin's "Suspended" Lighthouse.

I OFFER no apology for introducing the following ingenious and singular proposal, because of the great celebrity of its author, the well-known John Martin, R.A., so justly famed for the grandeur of his wonderful conceptions in depicting scriptural subjects, as all who have ever seen the "Plains of Heaven," "The Great Day of His Wrath," or the "Temptation," will be ready to testify.

Mr. Martin's proposal (made in the year 1829) was to erect on the Goodwin Sands, or any other such shoals, a sort of beacon lighthouse of iron, which was to be suspended from three wrought iron "legs," forming a

tripod, resting on a foundation constructed on the following most original plan:—

The level of the clay *below* the sand must first be satisfactorily ascertained.* The material for the foundation was to be hollow metal boxes, open at the top, each furnished at one end with two projecting pieces, and at the other two corresponding holes, so that each box may be firmly locked into that on either side of it. Three lines of these boxes, forming in plan an equilateral triangle, are to be placed on the sand at low tide; these will have sunk by the next tide, when another layer of boxes would be deposited on the top of the first, their course being directed by three iron bars or poles sunk in the sand at each corner of the triangle, the end box of each line being furnished with guiding loops. As the boxes descended they would all be filled with sand, and thus a firm foundation, it was thought, would soon be obtained, as layers of boxes might be added on as the others gradually sunk. The whole was to be strengthened by "bars of wood or iron passing through holes in the sides of the boxes, and similar bars might be placed within the triangle." When the upper layer had reached the surface, the foundation would be completed. Three wrought iron "legs" are then to be "inserted" at the three corners of the foundation, meeting at the top, where they are to be "firmly secured," thus assuming the form of a pyramid or tripod, standing on a triangular base or foundation. From the apex of these three iron "legs" is to be "suspended" a light

* We must not forget that this level, as proved by Sir H. Pelly's experiment, was 78 feet below the surface! But this fact was not, at that period, known.

tower of malleable iron, circular in form, about 10 feet in diameter, large enough to accommodate two men, who would be relieved at "stated periods" (Mr. Martin does not say how or when), a steamer being appointed to look after each depôt, such depôt to consist of "so many of these light towers." The cost of this singular apparatus is estimated at only £300, which I venture to think would be very far below the real expense of such a work. The circular suspended tower was to have a flat top, surrounded by a rail to form a "look out," above which, from the apex of the triangle, the light was to be fixed, *how* we are not exactly informed; nor are we told how the iron poles, or "legs," are to be "inserted" into the foundation of boxes and sand, or "firmly secured" at the top; nor how the "round-tower" is to be "suspended."

The sketch at p. 115 is copied from Mr. Martin's own design, in which no scale is given in the original; but, from the size of the man, a very rough estimate may be made that each "leg" or pole would be about 70 feet long, and the tower about 7 feet high and 10 or 11 feet in diameter, with the floor some 20 feet above the water. A, the light; B, the lighthouse; C, pieces of cast iron 10 feet square and 6 inches thick, fixed at each angle of triangular frame, and so united to the foundation to give greater security to the whole.

Mr. Martin suggests that there should be six of these towers erected on the eastern edge of the Goodwin Sands; and then makes this very remarkable and entirely original proposal: "Buoys, as outposts, made of long beams of wood fixed by an anchor at each end of the beam, should be placed in the direction

of the sandbank. To render these buoys conspicuous a *small pole* should be fixed upright at each extremity of the beam, and at the end of each pole an arrow, as a pointer, with a *small bell* attached. Reflecting glasses, placed at various angles, should be fixed at the top, to catch reflections of light. Ships should carry a strong light at their heads, which would be reflected from these glasses (?) and show the direction of the Sands. A buoy on this principle cannot move so far from the spot as those on the present plan.

All this is very ingenious in theory, but I greatly fear Mr. Martin knew but little of the nature of the sandbanks and shoals, exposed to the full force of a heavy sea, lashed into fury by the tremendous power of the wind. How long did he suppose that "a small pole," or "a small bell," and "various reflecting glasses," fixed on a floating beam of wood, moored on the Goodwin Sands would be likely to last? Judging by our present experience we should put the time of such endurance at the most limited period, possibly a few days only. Again, did Mr. Martin reckon on the enormous length of the proposed "three legs"—between 60 and 70 feet—and the great thickness they must necessarily be to support so great a weight as the light, the iron tower and the two men? And did he consider the immense force which would be exerted at each corner of the triangular box "foundation," by the outward thrust of these three "legs," when so heavily weighted at their apex? I fear that something more than mere "iron boxes filled with sand" would be required—at each corner at least—to keep the "legs" in position, when we remember the irresistible power of the sea, and how

repeatedly beacons are washed away, although constructed on the most scientific principles, and firmly bound together by lateral supports and iron tie-rods on every side.

Mr. Martin's idea, in theory, was perhaps good, and possibly practicable for the mouths of rivers where the water was smooth, and the force of the sea comparatively small; but such a structure could never succeed exactly as he designed it, inasmuch as it would be very far too weak and slight to resist the overwhelming force of winds and waves as usually experienced on the Goodwin Sands, and all other such places exposed to the force of the open sea. Nevertheless the plan was certainly ingenious, and was perhaps worth the consideration of practical men, to whom it might, at least, suggest an idea from the fact of its thorough originality.

The Prince of Wales Harbour of Refuge.

The very curious and interesting experiment conducted by Sir J. H. Pelly in October, 1849, on the Goodwins brought out the remarkable fact that clear bright sand extends downwards to a depth of 46 feet, whilst 32 feet more of sand, broken shells, pebbles, etc., intervene before the solid chalk is reached.

By this, it is quite evident that it would be necessary to descend something like 78 feet through the soft sand before any hope of a firm and really reliable foundation could be reached—a rather staggering fact so far as building or reclaiming schemes are concerned; and therefore, as a consequence of this very

conclusive experiment, all further attempts at sinking operations, for subsequent building purposes, have been very properly abandoned—at least for the present.

Acting, however, apparently on the opinion formed by Mr. Boys, by Smeaton the great engineer, by Admiral Bullock and others, that a firm bottom could be reached at from 7 to 15 feet, a scheme remarkable for its originality and ingenuity, was formally brought before the public in the year 1843 (six years *prior* to Sir J. H. Pelly's investigations) by Mr. Bush, C.E., so well known for his gallant attempts to build a lighthouse on the Sands, called the "Light for all Nations," a full account of which appears in Chapter V. This latter proposal was nothing more nor less than the formation of a "Harbour of Refuge," to be named after the Prince of Wales, right in the centre of the Goodwins, the spot, in fact, lying between the north and south portions of the Sands, and known as Trinity Bay. To carry this out, Mr. Bush did not intend to ask aid from either the Government or the Trinity House, but, looking on the scheme as a pure commercial speculation—and probably, as he hoped, a paying one too—Mr. Bush proposed to form a company with a capital of £250,000. in 5000 shares of £5 each, and construct a Refuge Harbour of 2,260 acres in extent, with an average depth of 36 feet at low water; and at the same time to reclaim from the sea 7000 acres of land which. he gravely told the public in his prospectus, "can be appropriated for the purposes of cultivation (!) the building of docks, warehouses, and other useful and necessary objects;" or, if the Government desired it,

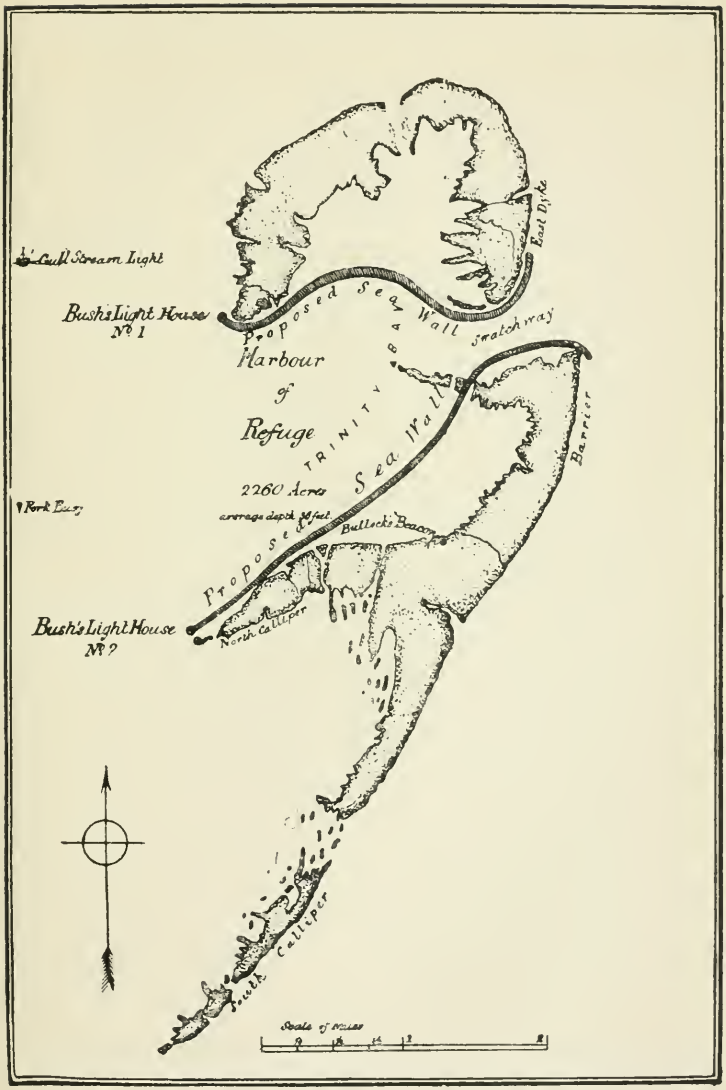


CHART.—BUSH'S SEA WALL.

"the erection of fortifications on any part of the recovered land." The "reclaiming" was to be effected by means of a vast sea-wall 11 miles in extent, to be constructed on the "Caisson system," patented at this period by Mr. Bush. This was simple enough in theory, but, as experiments and attempts afterwards proved, difficult and dangerous in practice. A huge hollow caisson was proposed to be sunk in the Sands, having a tall tube or shaft rising above water, through which workmen were to be lowered, who would fill the interior with masonry till the whole became a vast solid mass, and by means of a series of those caissons, walls or platforms, it was thought, could be erected, but only at the cost of an enormous amount of labour, time, and money. Mr. Bush, confident in the success of his invention, goes on to state that the dues arising from ships seeking refuge in the harbour, as well as the profits arising from the "land" recovered (?) would amply compensate the shareholders for the money expended; and then, after referring to the thousands of ships which have been wrecked here, during the last 800 years, Mr. Bush makes this remarkable observation:—"In that long lapse of time, innumerable ships, freighted with the most valuable cargoes, have been here swallowed up; and, although much of what those vessels contained was doubtless of a perishable nature, it is fair to presume that many of those sunken wrecks contain solid and substantial treasures, such as silver and gold, the extent of which no idea can be formed." From this, it is fair to suppose that the possible recovery of some of "the treasures of the deep" formed a material part of Mr. Bush's daring scheme.

By means of a long series of these caissons, Mr. Bush proposed to construct a sea-wall and so "reclaim" a great part of the Sands, and form the Refuge Harbour out of the present Trinity Bay, the land reclaimed to be devoted to building purposes and "cultivation." How buildings were to be erected on loose, soft sand is not very clear; but how such sand was ever to be "cultivated," as Mr. Bush proposed, is utterly inexplicable! At the southern extremity of this sea-wall Mr. Bush intended to place a lighthouse (possibly his famous "Light for all Nations"), and a corresponding light at the northern extremity.

The design—as a design—was excellent, and would have proved a vast boon to the shipping interest if it could in any way have been accomplished; but this scheme does not appear ever to have been taken up; possibly the unfortunate destruction of the first great caisson, and the consequent failure of that experiment in the previous year * (1842), might have materially operated to prevent any further interest being taken in so apparently hopeless a matter as attempting to build on a loose shifting sand, where the only foundation to be relied on was found to exist at the enormous depth of 78 feet, a fact, however, *not then known* to Mr. Bush, as Sir J. H. Pelly's researches were not undertaken till October, 1849, or six years afterwards.

Bush's single Lighthouse and Breakwater, 1852.

Nothing daunted by the failure of the "Prince of Wales Harbour of Refuge" scheme, Mr. Bush proposed,

* See Chap. V., "Beacons."

in the year 1852, yet another plan, not perhaps exactly original, for the idea of the faggots is evidently suggested by Captain Vetch's plan,* though employed in a somewhat different manner, and it is evident from the great depth of the proposed foundation that Mr. Bush had profited by the discovery of the real position of the chalk as revealed by Sir J. H. Pelly's experiment three years previously. Mr. Bush proposed to enclose an area of 600 feet by a circular breakwater constructed by hurdles of faggots on Vetch's system, and in the centre of this was to be an excavation down to the chalk substratum, 80 feet below, which was to be reached by means of huge circular caissons to be filled in as they descended, by which means a tower, 80 feet high, of solid masonry, resting on the chalk and passing upwards through the sand, would be formed. On this, above high-water mark, a platform was to be placed, and on that again a lighthouse tower could be raised 140 feet high, or 220 feet from the deep chalk bed. This is, no doubt, a really grand and spirited design, and if the great 80-foot solid tower could but once have been built on the firm clay and brought up through the sand, it would have been a magnificent and eminently useful work, and all subsequent building on such a solid foundation would have been comparatively easy; but, unfortunately, like all building on the Goodwins, winds and waves, and earth and sand alike, seem to declare against us puny mortals, and we never seem to get beyond the mere beginning, for the simple reason that before any structure can be advanced far enough to obtain a firm

* See p. 245.

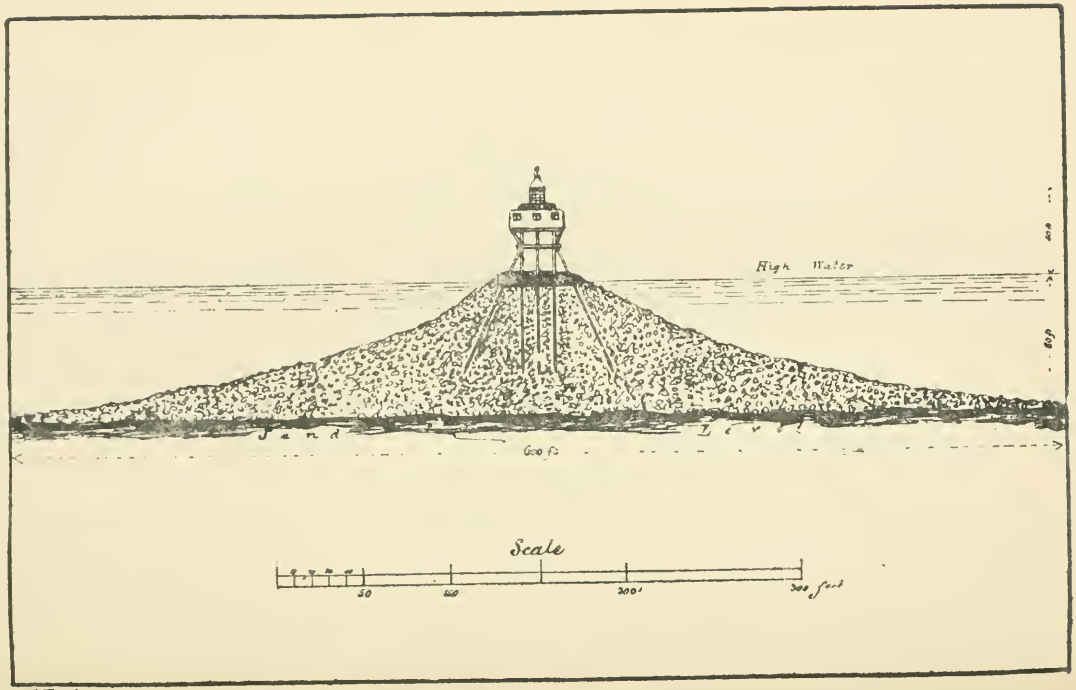
"hold"—so to speak—everything is washed away, and totally destroyed.

But this was not all, for, in addition to the 80-foot tower, an artesian well was to be sunk through the sand down deep into the chalk, for the supply of the shipping with pure water. This well, we may suppose, would be in connection with the lighthouse, and perhaps, as a scheme, feasible enough. But the real objection which appeared to have been raised by practical men was not so much the idea and the design, as the position proposed for the lighthouse, namely, the centre of the Goodwins, which was said to be a great mistake in judgment; for it was very justly argued, that if the Goodwins were ten miles long, with a mile at each extremity as the nearest prudent approach in a strong tideway, a central lighthouse, placed as this would be in the middle of the Sands, would be six miles from either danger, and consequently much too far off to be of any real practical use. The proposal was, therefore, *never carried out*, or even attempted.

Mr. Thomas Stevenson's Rubble Cone for Lighthouse.

An admirable proposal, and one that appears to be perfectly feasible from the extreme simplicity and great strength of the design, was made by Mr. Thomas Stevenson, F.R.S.E., in the year 1848, for the construction of a lighthouse on the Sands, to be supported on a cone of rubble and chalk.

Mr. Stevenson first proposed to construct a vast circular cone of rubble, 600 feet in diameter at base,



G.B.G.

STEVENSON'S PROPOSED LIGHTHOUSE ON RUBBLE CONE, 1848.

but very gradually diminishing, as it rose upwards, until 10 feet above high-water was reached, where a level "platform" would be formed 50 feet in diameter. This cone would be raised by dropping millions of tons of rubble and stone into the sea, just as the foundations of Plymouth and Portland Breakwaters were formed; only here on the Goodwins, it would, of course, be impossible to erect a "staging" on piles as at Portland; but barges prepared purposely would have been employed. When the circular cone was completed, Mr. Stevenson proposed to construct a timber lighthouse, consisting of a small room for the light-keepers surmounted by a gallery carrying the lantern. This was to be supported on a very strong frame resting on nine piles, strengthened by other piles starting from the four corners, and having a spread of about 70 or 80 feet (see Section on opposite page). These piles would not pass into the sand at all, but would be inserted in the firm hard rubble cone; and as they would be open above water, it was thought that they would offer but little resistance to the sea, and their foundations being secured in the depths of the great cone, it is quite possible that, had the experiment ever been tried, the scheme would have proved a remarkable success, and would have fully answered the expectations of its ingenious designer.

One very great advantage possessed by this plan was that there were no *mechanical* fixtures, in the shape of caissons, tubes, or piles, inserted in the *sand itself*, and which, having no hold in the loose shifting bank, would be liable to be soon destroyed by the ceaseless washing of the sea; but the great cone being

formed of rubble and stone, the very flexibility of the material employed would adapt itself to the various changes of form consequent upon unequal settlement. It was also thought that if damage ensued the very ruins of the rubble cone would readily assist against further encroachments, and that the great width of the cone would effectually prevent the sea from reaching the lighthouse itself. This, however, is decidedly open to question, as the "platform" was only 10 feet above high water, and the light but 40 feet above the "platform"; both should certainly have been considerably higher when the immense force of the sea on the Goodwins is remembered. The height of the cone from the sand level was proposed to be 80 feet to high water, and the light 50 feet above that; total height to summit of structure from sand level, 130 feet. The probable cost was estimated at about £121,600.

No scientific apparatus would have been required such as coffer-dams, caissons, diving-bells, or divers; and, as the plan was of the simplest nature, the most ordinary unskilled labour alone would have been needed to have worked the lighters carrying the stone to be dropped into the sea for building up the great cone.

Mr. Stevenson's plan is remarkable for its extreme simplicity, and is perhaps about the only one calculated to make any lasting impression on the Goodwin Sands. A question, however, of some anxiety here presents itself, and that is, remembering Sir J. H. Pelly's experiment, which showed that firm chalk was reached only at a depth of 78 feet, would the loose sand, gravel, clay, sea-shells, etc., of which the Goodwins appear to be composed, bear the weight of this enormous rubble cone

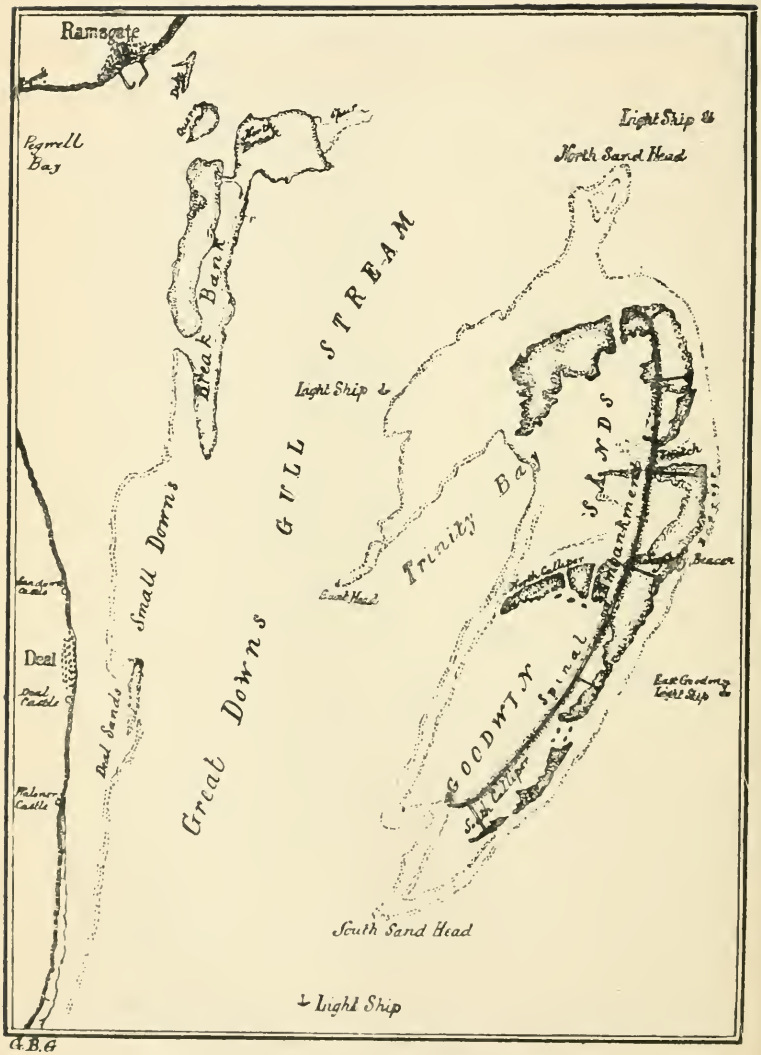


CHART.—VETCH'S SPINAL EMBANKMENT.
(Six groynes marked =.)

without allowing the whole to sink bodily down? It is a different matter altogether with the breakwaters of Plymouth and Portland, where the huge rubble bank rests on a hard smooth clay bottom, very dissimilar indeed to a soft, porous, spongy sand.

As Mr. Stevenson's plan was so simple, and yet so feasible, it is much to be regretted that it was never tried.

Captain Vetch's Breakwater, or "Spinal Embankment."

Of the many schemes which have been propounded at various periods for lighting, buoying, or otherwise (by means of beacons) distinctly marking out the Goodwin Sands, perhaps one of the most extraordinary on record was that proposed by Captain Vetch, R.E., which, for boldness and originality of design, is perhaps unequalled; for he not only intended to make the lands visible, and thereby far safer, but by *reclaiming them* to turn them into a real breakwater—although to talk of reclaiming these desolate Sands, would, at first sight, appear to be a task about as wild and utopian as it was useless and impossible.

Such a scheme, however, was proposed by the gentleman just named, who, in the year 1844, published a pamphlet setting forth his views, in clear and expressive language, as to the utility and practicability of reclaiming these Sands, not, of course, with the view to cultivating such desolate swamps, but with the ingenious and novel idea of forming them into an island, and thereby creating first an enormous breakwater, and next an equally enormous harbour of refuge of the waters

lying between them and the shore—the Downs in fact; for Captain Vetch was of opinion that the best harbours for all purposes are those formed by an island lying near the mainland, with the channel between sheltered by projecting points or banks; and if it is possible, by any reasonable means, to convert these Sands into an *island*, as suggested, the Downs would be thus rendered one of the best and most extensive of harbours of refuge in the kingdom. Nor would this be the only advantage, for by turning these barrier sandbanks into an island by raising their crest above high-water mark, they would be always visible, and therefore no longer a *hidden* danger. To build on foundations laid by nature, when at all practicable, is obviously better policy than to extend long piers or breakwaters into deep water for the purpose of enclosing an anchorage, as at Portland, Holyhead, and other places, not only without any assistance from natural circumstances, but possibly in direct opposition to them. The great question therefore was how to raise the crest of the Goodwin Sands above high-water mark; and this Captain Vetch proposed to do by a most original and ingenious plan, which may be thus roughly described:—

It was proposed to build a "spinal embankment" down the centre, and along the most elevated ridge of the Sands throughout their whole length, This was to be constructed of square frames, 12 feet each way, formed of strong iron rods 15 feet long; 7½ feet to be sunk in the sand, and 7½ feet to remain above, and arranged 1 foot apart, and so forming a square frame of the above measurement. The interior space was to be floored with hurdles, and the sides of the square

lined with fascines firmly secured. It was supposed by the inventor that, by the operation of the tides and the sea, the sand would be continually accumulating around, and within, such a contrivance as this, which would be erected for the express purpose of catching and retaining it. When sufficient sand had been heaped up inside and outside this square to reach the top of the first row of fascines, then a second floor of hurdles, and a second row of upright fascines round the sides was to be introduced, and so on until the square was quite filled, when a second tier of iron rods, 8 feet long, would be keyed into the tops of the first, and this new square treated exactly like the one beneath, and a barrier of 15 feet in height would thus be raised composed of materials not affording any solid resistance to the waves, but calculated to receive and *retain* the sand, on either side, as thrown up by the sea.

It was proposed that this "spinal embankment" should consist of two rows, 36 feet apart, formed of hundreds of these squares of exactly similar size and construction, the two rows to be bonded together by similar squares at stated intervals, and by the formation of these numerous cells, between the two rows, it is calculated that every facility would be offered for the accumulation and retention of sand, which would be continually increasing, and never decreasing, year by year; and thus, in the course of time, a vast bank of extraordinary solidity would be formed, constituting one of the largest and finest breakwaters in the world. One of the most remarkable features in this plan is its extreme simplicity; iron rods, hurdles, and fascines, to be counted by thousands, being the only materials

employed; the sand, helped by the sea, doing all the rest.

The chief hindrance to the successful carrying out of this plan would appear to be the extreme difficulty, at the very outset, of fixing the rods and forming the squares along the whole length of these treacherous shifting sands, for the tide is down only three hours at a time, and the chances are that before the work was sufficiently perfected to be capable of resistance it would be destroyed by the violence of the rising waters.

This circumstance, together with the shifting nature of the sand, and the power and force of the sea, have always been the great, and apparently insurmountable, difficulties which all engineers have experienced to the full whilst engaged in the praiseworthy, but almost hopeless, work of endeavouring to place any sort of permanent erection on the Goodwin Sands, as the reader will already have seen in the chapters on Beacons and Lightships.

The cost of Captain Vetch's ingenious scheme was roughly estimated at £507,000, and the probable time required for the construction of the embankment *about* four or five years. Whether it was the great estimated cost, which would doubtless have been nearly doubled before the work was completed, that alarmed the authorities, or whether the great originality of the scheme itself raised a doubt as to its practicability, it is difficult to say; but it is certain that no attempt was ever made to carry out this most remarkable and ingenious design.

Building on Sunken Wells.

Another scheme, almost as remarkable as the last for its originality and simplicity, was proposed by a writer, under the signature of the single letter "M.," in the *Civil Engineers' and Architects' Journal* of 1843. This was to construct on the Goodwins a vast and solid base of masonry, on which might be subsequently raised a lighthouse, tower, or beacon, or indeed anything else that might be determined on, the writer confining his proposal strictly to the building of the huge square foundation in the first place. He begins by saying, truly enough, that "he who builds a lighthouse on the Goodwin Sands builds an imperishable name and a monument to his fame, not only as a skilful and successful architect, but also as the enviable deliverer of thousands, and most probably tens of thousands, of his fellow creatures from the jaws of destruction." The writer then proceeds to criticise Mr. Bush's scheme for the construction of his "Light for all Nations" (see page 121) which, he says, was excellent enough in itself, but that Mr. Bush's great mistake appears to have been that no experimental borings had been previously made in order to ascertain the exact depth of the sand before he began operations. The consequence was that "he launched his caisson on an unknown void, to rest eventually on he knew not what." Now, in the plan under consideration, this preliminary step is unnecessary, except so far as choosing a site upon which to commence the works. The plan is then detailed at length, which we give in the writer's own words.

"The site being chosen, let A, B, C, D, be a given square, the angle A being towards the most violent action of the waves:—At E, the centre of the square, let a circular well about 8 feet in diameter be commenced, the masonry, about 2 feet thick, to be firmly cemented together, and so secured as to resist the pressure it must experience as it descends. Commencing at the lowest depth convenient, let the building be rapidly carried on until above high-water mark, still continuing it as the lower portion disappears, every means being used to facilitate its descent should this be requisite. There is little doubt, however, of the building gradually sinking, the increasing weight giving the necessary impetus to its descent, and thus must it continue without reference to the depth, until it meets the consolidated bed on which the quicksands rest.* This object attained, the sand is then abstracted from the well, and after the foundations are properly examined the whole is to be filled up with solid masonry.

"Having, by this central well, ascertained the depth of the sand and the nature of the lower bed, proceed to form wells of magnitude and strength proportioned to the depth of the sand to be passed through, at points A, B, C, D, and simultaneously, or consecutively, the connecting wells, to be filled up in like manner.

Thus a coffer dam of solid masonry will be formed, from the midst of which the sand, *if not very deep* [? 78 feet], may be abstracted, and solid masonry introduced in lieu thereof, binding the whole as one vast solid foundation capable of supporting a noble edifice."

* This "consolidated bed," according to Sir J. H. Pelly's experiment, would be just 78 feet down below the surface!

The wells and the foundation being complete, the writer then proposes to lay immense blocks of stone thereon, and continuing the erection for full 12 feet above high-water mark, on which the shaft of the lighthouse, or other superstructure, may be easily raised, and which would be left to the taste or skill of the engineer. The writer concludes by stating that "this idea of building on quicksands is not original, for during my travels in India my admiration has been more than once excited by vast piles of solid masonry having their foundations laid within dry quicksand—a much more difficult undertaking, I presume, than building upon the Goodwins, which, from their compactness, must offer great opposition to the intrusion of bodies of this nature. The beautiful Scotch Church at Madras may also be quoted as having its foundations laid within the quicksand, being pillared on a great number of wells, as suggested by native architects."

Whilst agreeing with the apparent practicability of this novel and original idea, I fail, however, to discover the grounds on which the writer "M." can rest his singular opinion that to build on "dry quicksand," situated on *terra firma*, would be a more difficult task than a similar building operation on the Goodwins out at sea, which are only dry for about three or four hours at a time, and are, at all others, covered with boisterous waves which are often lashed into terrible fury by the violence of the wind, destroying and overwhelming everything that comes in their way; ruining, in one short hour perhaps, the anxious and painful labour of many previous weeks, as was often the case during the building of the different beacons on these sands.

This, at any rate, is an enemy that the Indian architects never had to contend with or provide against in their "dry quicksand" operations. Indeed, it is just this, after all, and perhaps this only, and not so much the actual nature of the Sands themselves, that has always proved the great and real obstacle to any solid erection on these banks: the extreme difficulty of carrying on heavy work by reason of the very short time the tide allows for building operations of any kind, the work being often destroyed by the sea before it is sufficiently advanced to offer any substantial resistance. And so precisely it would be with these wells; for it is more than probable that, before they could be pushed sufficiently forward *to resist the waves*, they would, over and over again, be covered by the rising tide, and thus filled up with water and sand, and the unfinished masonry loosened and disjointed, if not indeed washed away and destroyed altogether.

The writer concludes by stating that the expense of erecting his proposed wells would be comparatively trifling, and wholly unworthy of consideration, taking into account the vast importance to life and property of so "truly great, noble and national an undertaking as the erection of a lighthouse on the Goodwin Sands."

Reclaiming the Brake Sand.

A scheme was proposed by the late Sir John Rennie, C.E., to reclaim the sandbank which lies to the north-west of the Goodwins (see Chart, page 1), so far as to convert it into a breakwater, and so make a sort of

harbour of refuge of the Small Downs. But the scheme seems never to have attracted much notice, and was ultimately abandoned altogether.

The commissioners for the "Survey of Harbours on the South-East Coast," in their report, gave up the idea altogether of forming a breakwater along this sand, in consequence of the small depth of water and the uncertain foundations. They also reported against the scheme of forming a harbour at Sandwich, which they considered quite impracticable on account of the vast bank of shingle which is continually moving northward in the direction of prevailing winds.

A Fortification on the Goodwins.

It may not be generally known that the great Duke of Wellington had cast his eyes on the Goodwin Sands as a site—not for a beacon or lighthouse—but for a fortification. The subject was referred to by his Grace when giving his evidence before the "Shipwreck Committee of the House of Commons" about the year 1843, when, speaking of harbours of refuge, he took occasion to observe that "the extensive application of steam to maritime purposes would effect an important change in naval warfare," and his Grace then went on to suggest the "possibility of constructing places of defence on the Goodwin Sands for the special protection of the Downs and the Channel, as well as on other and such-like banks upon our coasts for the protection of our trade generally." The Duke, it will be remembered, was, for a long period, Lord Warden of the Cinque

Ports, and resided at Walmer Castle, which is situated right opposite the Sands; so that they, and their position in the Channel, must have been perfectly well known and familiar to his Grace—and his suggestion was, possibly, the outcome of that knowledge: but it was never acted on, or even discussed.

Proposals and Plans for Building Operations on the Goodwin Sands submitted to the Trinity House since 1845.

I offer no apology for giving the whole of the following rather lengthy list of proposals, schemes, and suggestions for engineering works on the Goodwins, inasmuch as some of them are so extravagantly absurd that they will be read with interested curiosity by most people, but especially by professional men, who will hardly fail to be much amused by the extraordinary and impossible nature of many of these singular suggestions. One thing is quite evident, and that is, that the majority of the ingenious proposers knew just nothing at all of the real character of the Goodwin Sands, or of their true formation.

1845. *Sir S. Brown, London.*—To erect a bronze column for a lighthouse at a cost of £11,000.

„ *Rev. F. A. Glover.*—Plan for a foundation on sand or rock for lighthouse or beacon, at any depth.

1846. *J. De la Haye, Liverpool.*—To sink six iron shafts, each in an iron cylinder, to be sunk by atmospheric pressure, and bound together by hoops or rings, so that the sea passes through.

1847. *C. Wise, Westminster.*—A huge iron base and anchors for mooring floating lightships, &c.

„ *Bolton Bolton, Pimlico.*—To build a lighthouse, and convert the Sands into a harbour of refuge. Estimate, £82,000.

1847. *W. N. Clay, Ongar.*—To build a foundation for recovery of Sands. (?)

„ *G. Shepherd, C.E., London.*—To construct a lighthouse on the Sands on Dr. Potts' plan.

1848. *J. De la Haye, Liverpool.*—To construct lighthouse of iron cylinders in 12 pieces, 200 feet in diameter, covered with timber; lighthouse to be of sheet-iron. A gradient to be formed of iron bars for waves to roll up. Interior to be filled with stones.

„ *W. Vincent, Birmingham.*—To place open piles, hollow at lower end, loaded with heavy ballast, spreading out from centre and secured with chains, to form foundations.

„ *D. McGill & J. Horend.*—To build breakwater and lighthouse on base, 600 feet square. Cost, £580,000. Or on smaller scale, £68,000.

„ *G. C. Redman, London.*—To build fort on the Sands with lighthouse attached. Submitted also to the Duke of Wellington.

„ *J. Goldfinch, London.*—To construct lighthouse on the Sands, with a *sailors' chapel* annexed. To be of cast iron, resting on *wood* piles.

„ *Rev. J. B. Robinson.*—Asking as to the possibility of erecting a lighthouse on the Sands, and how it is to be done.

„ *R. Banner.*—To construct *floating* (?) breakwaters on the Sands, so to form a harbour of refuge within, and having advanced lights.

1849. *E. Evans, Dorking.*—Submits a peculiar plan for erecting a lighthouse.

„ *H. Harbord.*—Proposing a vast circular iron plate of 60 feet in diameter at bottom, another, 30 feet in diameter, above it, connected with eight iron pillars, 50 feet long, planked up by 10 feet, and filled with 200 tons of stone. This was to be floated out, sunk, and moored with great anchors. On the top was to be a circular light.

„ *W. King, London.*—Submits a plan for lighthouse.

„ *Duval Pirón, Paris.*—Proposed an iron well to be built up, 27 feet in diameter, formed of vertical bands, built as a "double skin." To be sunk in the sand, which was then to be dredged out. The platform on the top to rest on hollow pillars filled with concrete. Over all was to be a

lighthouse, 98 feet above the water. Estimate, £7000. [Possibly suggested by Bush's Caissons.]

1850. *J. E. Serrall, New York.*—Proposed to place a vast crate, 150 feet in diameter, of either copper or iron, braced with diagonals, with inner circles 15 feet apart. The centre tube to be 15 feet in diameter. The crate to be filled with rubble except the centre shaft, and fresh crates to be added as the first ones sank down. Lighthouse on top to carry three vertical lights. Estimate, £100,000.

„ *B. Armstrong, Poplar.*—To construct lighthouse by means of water-tight caisson, floated out and sunk by atmospheric pressure. To be 100 feet in diameter, in eight water-tight compartments, filled with concrete. To consist of two *spheres*, inner and outer. On the top of the outer sphere the lighthouse to be placed, whilst a steam engine to be placed in the interior. [The particular use of the engine is not mentioned.]

„ *A. Robinson, C.E., London.*—Proposes to erect a lighthouse on either rock, sand, or gravel, in the course of *one week*. The main shaft to be of iron, the lower end fitted in a cast iron plate. Into the upper end is keyed a wrought iron shaft to receive platform. The standard to be supported by mooring it to crabs or struts. The outer crab to be connected with the inner by lever, and the outer mooring chains to be connected with that lever. £1500, estimated cost.

„ *G. Grazebrook, Liverpool.*—Proposed that a lighthouse should be built on Sands at the expense of the Trinity House, and if it answers, that *he* should be paid £100,000 for his plan and suggestions! [A most considerate proposal certainly!]

1851. *S. Borras, Liverpool.*—Proposed a vast iron coffer-dam should be erected, to be filled inside with stone, to carry an iron lighthouse at top. [Bush's idea again.]

„ *T. E. Smith, London.*—Proposed to sink a tube into the sand, and through this to pass an iron standard, which was to be *soldered* on to the "rock"! ["Rock" on the Goodwins!]

„ *H. Harbord.*—A rod, 1¼ inch in diameter, to be forced "*through*" *the chalk;* and around this rod, at proper

distances, stones are to be thrown in, so as to form a cone! [Very original indeed!]

1852. *Admiral Taylor.*—Proposed to erect on the Sands a "Shipwreck Asylum," but omitted to state whether floating, or fixed, or otherwise.

„ *The Earl of Dundonald.*—To form foundations by combining melted bitumen from Trinidad, with sand and gravel, pouring it on sandbanks and shoals for foundations. The plan showed a cone with extended base, and surrounding sand, conglomerated with petroleum, to form a submerged rampart. [Not unlike Stevenson's "Rubble Cone."]

„ *G. Sinclair, London.*—Proposed to erect a lighthouse on Sands on the plan of Plymouth Breakwater.

„ *C. James, London.*—To sink a shaft at a spot on the Sands nearest the shore; cut a permanent tunnel from the shore and from thence work UPWARD! [Through both Sands and Sea!!]

„ *G. B. Martin, Maidstone.*—Submitted a plan for laying foundations on Goodwin Sands.

„ *W. Darley, Sheerness.*—To erect lighthouses on the Goodwins and on the Nore. Designs submitted.

1853. *J. S. Morris, London.*—Submitting plans for building lighthouse on loose and sandy foundations.

1854. *J. E. Stanford.*—To erect a peculiar sea-mark on sands.

1856. *J. Neale, Chatham.*—Proposed to float out large iron vessels filled with concrete, to be sunk in the Sands as foundations for piers or lighthouses. [Not new.]

„ *W. E. Hall, London.*—Submitted a model for a proposed lighthouse on usual plan.

„ *R. Stennel, Lynn.*—Submitted a "new" (?) principle for foundation for lighthouse.

1857. *E. Chard, C.E., Brixton.*—Proposed a cylinder of sheet-iron, 100 feet in diameter, and 50 feet high. On outside of this to be another cylinder, *same diameter* at base, but 150 feet at top, thus forming a circular wedge to work its way through the sand down to the "rock." To be floated out and sunk, and afterwards the interior filled up with stones and concrete.

„ *W. S. Ashby, Chelsea.*—Proposes to submit a *plan* for building on Sands.

„ *J. Austin, C.E., London.*—Submits proposal for "imperishable" stone blocks for building lighthouse foundations, with "cast-iron annular ring, double-flanged, and trough-sunked, to receive dove-tailed stone blocks, to form footing for foundations" on any soft or sandy beds. [This scheme was especially referred to Mr. J. Walker, engineer to the Trinity Corporation, for his opinion.]

1857. *T. K. Winder.*—Submitted a plan for building a lighthouse on Sands. [Nothing new proposed.]

1858. *Lieut. E. Manico, R.N., London.*—Proposed to construct foundations for building on Sands by means of his patent "Caisson de fer." [But had not Bush already such a patent?]

APPENDIX.

No. 1, page 5.

Dr. Potts' Process for sinking Hollow Piles.

For this most ingenious process hollow tubes, or piles, may be formed of any material, and almost any shape. The lower extremity of the pile is open, and the upper one fitted with a cover, in communication with a powerful air-pump. It is placed upon the bank or ground, whether composed of sand, shingle, mud, clay, bog, or other material, in any moist situation, or under deep water. From the tube or hollow pile the air is exhausted by pumps, or any other mode which will produce what we call suction; being, in fact, the removal of the pressure of the atmosphere, and the partial formation of a vacuum.

When the air is withdrawn, the shingle, sand, or mud flow up this tube, the rush of water from below undermines the lower edges of the tube, which then descends by its own gravity and the pressure of the atmosphere on its upper extremity. The transporting power of the water, as it rushes up the hollow pipe, is found sufficient to raise even large shingle, removing it

upwards to allow the pile to sink deeper and deeper, as the soil is put in motion below, by the process of exhaustion as carried on above. As often as the tube is filled the contents are discharged by a suction pipe, or other means; and not only the solid particles but the water may be removed from the interior of the tube, and a succession of tubes may be added to the first by means of screws and flanges, or otherwise. The shape of the tubes may be cylindrical, angular or conical, so as to fit each other, and form a continuous line or wall that may vary in size as may be required.

The great value of this discovery will be at once evident for the formation of the foundation of any kind of marine construction—harbours, docks, light-houses, or beacons. It can be applied with ease and rapidity, not only where the ordinary modes of proceeding are of difficult execution, but when the employment of the means hitherto known is practically impossible.

It will be seen by reference to the context, that a tube 2 feet 6 inches in diameter was forced to the depth of 78 feet down into the Sands, where Admiral Beaufort could only force a steel bar 8 feet with a sledge-hammer. Admiral Bullock found that a pointed iron rod only 3 inches in diameter, at the depth of 13 feet in the sand, took forty-six blows of a monkey of 1 cwt., with a 10 feet fall, to drive it down 1 inch! This clearly exhibits the important fact that the Goodwin Sands are not so easily penetrated, from their surface downward to the solid chalk, although that opinion has been often somewhat freely expressed; nor,

as generally supposed, does the chalk bed lie at the depth of only 8 feet.

Sir J. H. Pelly's experiment of October, 1849, found the clay bed at 78 feet below the surface; but an investigation had already taken place during the month of July in the same year, when a tube of 2 feet 6 inches in diameter was forced down to the depth of 60 feet and, of course, no foundation was discovered, and the experiment was a failure, because the operators did not go low enough.

No. 2, page 16.

Waste of Cliffs—Encroachments of Sea.

Reculvers. — The Rev. Sir John Cullum, Bart., writing in 1782 (quoted by Duncombe in his account of Reculvers), says: "The cliff is continually crumbling away, particularly in winter time, and falling on the beach, where the children of the neighbourhood pick up Roman coins, but often so corroded that they are not worth purchasing. The crumbling away of the cliff on which the Church of Reculvers stands is become so alarming, that I am informed this year (1783) that some means are to be employed to stop the evil."

Duncombe says: "The Roman town of Regulbium has been long covered by the sea, which last winter threw down the remains of the north side of the old Roman wall which surrounded the castle, and makes such rapid inroads on the cliff that great part of it, with a house and farmyard adjoining to it, standing

within the memory of man, was lately thrown down, that it has been long apprehended that this noble structure and sea-mark (the church) with all the level below it, notwithstanding the great attentions and expense bestowed on it in planking, piling, &c., by the Commissioners of Sewers, will, in a few years, share the fate of the Roman town above mentioned."

Captain Sir Thomas Hyde Page, R.N., however, executed some works here about this time (1780) which proved very useful in checking the inroads of the sea —for a time at any rate.

The two western towers of the church are the only existing remains of the ancient structure, and those would have perished long ago, as the sea has already reached the foot of the bank or cliff on which they stand, had they not been most carefully protected by the erection of groynes and stonework on the beach by the Trinity House, as they now belong to that Corporation, and are used as sea-marks.

A pretty and romantic legend is connected with the restoration of these towers, about the year 1499-1500, which runs as follows :—

The two daughters of Sir Geoffrey St. Clare were left, at their father's death, to the guardianship of his brother, John St. Clare, the Lord Abbot of S. Augustine's, Canterbury. The eldest, Lady Frances, became the Lady Abbess of the Poor Nuns of Davington (in Kent). the younger, Lady Isabella, was betrothed to Sir Henry de Beluille, a gallant knight who fought and fell with Richard III. on Bosworth field. The disconsolate bride-elect at once took the veil in her sister's convent, and for fourteen years these ladies

lived peaceful and happy lives, until, about 1499, a fearful fever broke out in the convent and neighbourhood, the Lady Abbess herself being a severe sufferer. The two sisters registered a solemn vow that, if the disease should abate, they would make a pilgrimage to, and present an offering at, the shrine of S. Mary the Virgin, Bradstow (Broadstairs), at that period a place of great sanctity. They accordingly sailed from Faversham, but the same night a terrible storm came on, and their ship was wrecked off Reculvers. The Abbess reached the shore in safety, but it was not until the morning that her sister was rescued, and then, half dead with cold and fright, the Lady Isabella only reached land to die in her sister's arms. The Abbess, however, made her pilgrimage alone and on foot, and fully carried out her vow, and on her return at once restored the two towers of the ancient church of Reculver, under whose shadow the Lady Isabella already lay sleeping, and where the Lady Frances herself, eleven years afterwards, was entombed by her side. It is said that the towers were thenceforth known as the "Two Sisters," and looked upon as a monument raised by the piety and affection of a loving woman for a devoted sister.

Tradition commonly allows that this famous Roman fortress Regulbium was founded on a rock situated at least three miles inland, but was destroyed by some great convulsion of the sea, possibly the same which destroyed the Portus Rutupinus, converting that fine estuary into a low marshy flat, and the Ruochini Insula into a part of the mainland. This rock, said to be covered with solid masonry, once Regulbium, may

still be seen beneath the water at very low tides. Margate Sands, too, now far out in the sea, were all, doubtless, once part of the mainland as their peculiar names testify. The "Woolpack" and the "Horse" were possibly the sites of the markets where wool and horses were once sold; the other Sands are known as "The Last," "The Hook," "The Land," and "Whitstable Street."

Ramsgate and Neighbourhood.—During Admiral Lord Keith's residence at East Cliff Lodge, near Ramsgate, the Princess of Wales (afterwards Queen Caroline), paid him a visit, and during her stay some troops were paraded between the garden wall and the edge of the cliff, and marched past Her Royal Highness in columns of companies. That garden wall was, in 1850, falling over the precipice, and it has now disappeared altogether, the waste of the coast having, it is said, averaged fully two feet annually!

About a mile further on, at Dumpton Stairs, was also the remains of a Roman wall which is now entirely gone, but Roman coins and pottery are still found between that point and Ramsgate Harbour.

Captain Martin says that, in his time, very old fishermen remember the cliff at Broadstairs extending nearly 100 feet further out, but the sea wore it into hollows and arches. In the year 1836 one of those formed a cool retreat from the heat of the sun, but three years afterwards it was destroyed by the waves during a heavy gale of wind.

The shrine of "Our Lady of Bradstow," and the "broad stairs" leading up to it, were, very many years ago, washed away, and the mariner now no longer

lowers his topsails as he passes in token of salutation to the Holy Virgin, the "Star of the Sea," at the shrine at "Bradstow," as it was anciently called.

At Kingsgate, beyond Broadstairs, the arch formerly dedicated to St. Bartholomew is long since gone, and the public-house there which, in the memory of many persons still living, had a garden in front and a carriage road running past, has entirely disappeared—road, garden, house, and all.

Mr. Fairholm estimates the waste of Ramsgate cliffs at 4000 feet since the date of Cæsar's invasion; this would, therefore, average about 222 feet per century, a waste which, if slow, is apparently quite sure; and a waste which it seems very difficult, if not nearly impossible, to arrest with anything like certainty.

Sandown Castle.—This castle was once completely surrounded by a moat, but that part next the sea was, as already stated, entirely destroyed, partly by the constant encroachments of the sea, and partly, in 1785, during a violent storm, which filled up the moat nearly to the castle walls with sand and shingle. The writer can well remember when, about thirty-six years ago, the castle stood well back from the sea, above the beach; and a drawing which he made of it at that time shows the castle in such a position; but this space has long disappeared. The waves, being thoroughly masters of the situation, would soon have left not "one stone upon another," had not the Government determined to remove it altogether, as mentioned in the text.

A pleasant and commodious esplanade was constructed some years ago, starting from the south side

of the castle, and leading very nearly up to the present Coast Guard Station; but more than half of the northern portion has fallen a victim to the relentless and encroaching tide, and is now entirely destroyed, no trace of it even remaining. Verily the sea is an exacting and terrible master!

No. 3, page 19.

Richborough Castle.

The remains of this grand old fortress, "the theatre of the opening scenes of English History," and the first ever constructed by the Romans in Britain, lie a little to the north-west of Sandwich. The castle was intended for the defence of the great Portus Rutupinus, and the Rutupine shore adjacent; and is said to have been constructed by Stilicho, a military engineer, serving under Vespasian. The square enclosed by the walls, three sides of which are still standing, measures just five acres. These walls are 12 feet thick, and vary from 20 to 30 feet in height, and are built, with beautiful regularity, of blocks of chalk, boulder, and sandstone from Beachy Head, fronted with granite laid in seven courses, each 4 feet wide, connected together by double rows of red or yellow tiles and mortar, hard as a solid rock. Internally the walls were faced with flint, and externally with regular courses of square grit and stone, bonded by double rows of large flat tiles. At regular intervals strong

towers were placed, mostly square in form, and all have loop-holes for the use of watchful guards. The three walls each measure nearly 500 feet in length. The castle appeared to have possessed four gates:—the Decuman gate in the west wall; the Porta Principalis in the north wall; the Prætorian, opposite the Decuman, in the wall on the Cliff of the Estuary—now disappeared; and one other in the south wall. It has been stated that coins to the incredible number of 140,000 have been found in and about the castle; and this would seem to bear out the suggestion of Fabius Ethelwert, as to burying money by the Romans when they left the country.

The Rev. Mackenzie Walcott has the following graceful lines in reference to this interesting ruin:—

"The cornfield flourishes close beneath the ramparts, the ash and wild trees pierce through the fissured walls, which are clad with creeping plants. Under the broken heaps of masonry flows a narrow river down to the shore and marshes, where the fields of long-tasselled reed grass—worthy of Camilla's dainty feet—murmur in the wind, and ripple over like a wavy sea; where, too, dyke and channel yet remain to show the labour of the monks. In the rents of the once strong bastions, from whence the sentinel challenged all comers in the mother tongue of lordly Rome, whilst the walls were lined with the soldiers of the Empire, the farmer now lays his ploughshare, or the wandering gipsy shelters from the storm."

It is worthy of note that Richborough has its exact counterpart in the remains of another magnificent Roman fortress, the ancient "Garianonum," now

called "Burgh Castle," near Yarmouth, Norfolk. It is not impossible that this also was the work of Stilicho, or some of his pupils or disciples, from its close resemblance to Richborough in plan, build, and position. To both these grand ruins the words of the poet may be applied with perfect truth :—

> ". . . . . These towers, yet
> Unmodernized by tasteless art, remain
> Still unsubdued by time!"

This fine work (Richborough) was intended, not only for the protection of the Portus Rutupinus, but also for the adjacent city, the Urbs Rutupiæ, which must have been a place of considerable importance, and possibly of great wealth, as it was the city of the largest port or station of Roman Britain. It was evidently thought a great deal of, as it is mentioned by all Roman writers who have treated of British affairs, amongst whom may be mentioned Lucan, Juvenal, and Ausonius, in poetry; Tacitus, Ammianus, Marcellinus, and Orosius, in prose; Ptolemy in geography, and Antoninus in the Itinerary.

No. 4, page 22.

Earl Godwine's Death.

The accounts of Godwine's death vary. By the Normans and their adherents, he was denounced as a rebel and an enemy, because he simply acted as a statesman and patriot, and endeavoured to preserve England for the English, steadily opposing the whole-

sale introduction of the Norman element by Edward the Confessor. The well-known story of his death by sudden choking at Eastertide, on the 15th of April, 1053, when dining with Edward at Winchester, after his reconciliation with that monarch, was evidently written under Norman influence, as it brings forward the old accusation, which Godwine always so strenuously denied, of his participation in the horrible murder of the Etheling Prince Elfrede, son of King Ethelred II., and his companions, under circumstances of revolting barbarity. The chronicler says: "As Erle Godwine sate at mete with Kynge Edward, it happened one of the cuppe-bearers to stumble and recover agen, so that he dide sheade none of the drynke; whereat Godwine lowgh and sayeth, 'See now that how one broder hath susteigned the other;' [*i.e.*, one foot saved the other] with whiche wordes the Kynge calling to mind his broder's death, that was slaine by Godwine, behelde the Erle, saying, 'So should my broder Elfrede have holpen mee, nee had Godwine been.' Godwine, then, fearinge the Kynge's displeasure to be newlye kindled, after many wordes in excusing himself, sayd, 'So mought I safely swallow this moresel of brede as I am giltlesse of the deede.' But, as soon as he had received the brede, forthwithe he was choked and diede." (See 'Epitome of Chronicles.')

Now, if he was really "choked," he must have died within a few minutes on the spot; but the 'Saxon Chronicle' says nothing of this story, but distinctly states that he died on the Thursday—that is, three days after his seizure. The passage runs as follows:—"In this year the King was at Winchester at Easter,

and Godwine the Earl with him, and Harold the Earl his son, and Tosty. Then, on the second day of Easter (probably Easter Monday) sat he with the King at the Feast; then suddenly sank he down by the foot-stool deprived of speech, and of all his power, and he was then carried into the King's chamber, and they thought it would pass over; but it did not do so, but he continued on, thus speechless and powerless, until the Thursday, and then resigned his life; and he lies there within the old Minster; and his son Harold succeeded to his Earldom." Two other accounts in the 'Saxon Chronicle' are also substantially the same as the above, and make no mention of the "choking story." But there is still further the evidence of Alfred of Beverley (*temp.* Hen. I.) who says:—"Godwinus gravi morbo ex improviso percussus, ac Regi ad mensam Wintoniæ assidens, mutus in ipse sede declinavit ac postea in cameram Regis à filiis deportatus, moritur."

Marianus the Scot, and Simeon the Chanter of Durham, state the same:—"Godwinus gravi morbo percussus, in ipsa sede declinavit, et post horas quinque, moritur." These two evidently incline to the belief of disease, and not to choking.

Lambarde, too, clearly discredits the "choking" incident. He says, "They feigned that he was choked at Winchester (or Windsore as others say, for liers cannot lightly agree). Ealred, Abbot of Rynauxe, tells this story, and about the brothers gives the King's reply: 'Marry,' quoth the King, 'so mote me mine ne haddest *thou* been Earl Godwine'; but Godwine, declaring his innocence, put the breade in his mouthe, and was immediately strangled therewithall. Some

write that the breade was cursed of Walstane, Bishop of Worcester, but Ealred affirmeth that, after the words spoken by the Earl, the King himself blessed the breade with the holy signe of the Crosse, and therefore these men, as well together at blessing and cursing be one alike to another."

Lambarde adds a farther and rather curious piece of information, when he tells us that the story of the slipping of the cup-bearer, and the witty remark which followed, is simply stolen, word for word, by Ealred, the abbot, from William of Malmesbury's 'De Regibus,' wherein the very same thing is related as having occurred at the table of King Ethelstane. But Ealred was, it is believed, a great partisan of Edward the Confessor, and hence his adoption of the story, and his application of the incident, in order to make Godwine guilty first of the murder, and then of deliberate perjury and defiance of Heaven, for which, like Ananias of old, he receives a terrible and instant judgment.

After reading the stories of these quaint old chronicles, we can arrive at but one conclusion, and that is that Godwine's death was simply occasioned by a sharp and sudden attack of apoplexy, or paralysis—but most likely the former—following upon a great feast which was accompanied, without any doubt, by very heavy drinking, according to the rough and brutal customs of that day. Godwine, too, it must be remembered, was at that period very far advanced in years, and, perhaps, not then equal to so fierce a carousal.

No. 5, page 23.

The Godwine Legend.

The legend that Godwine, being placed in great danger, made the vow referred to in the text, has been woven into a very pretty romantic ballad by the late Captain Martin of Ramsgate.

The ballad opens with an introduction to the Earl and his followers, who are carousing in his island home of Lomea:

"The sparkling mead with riot crown'd
Beams high in Godwin's Hall;
The chieftain's lofty roofs resound
With triumph, shout, and brawl.

The bold sea-rovers there reclined,
Their daring prowess boast,
Whose unfurl'd pennon to the wind,
Oft awed the neighbouring coast.

And all was joy and revelrie
Around the feudal board;
When stranger sounds of minstrelsie
A silence deep restored.

Unseen the hands which touch'd the chord,
By holy music filled,
Whose well-known strains to Godwin's lord
His heart with horror filled."

Godwine recognises the music as that of his favourite harper, who was killed by his side in the attack on Milton, and takes it as a warning from the dead that his vows, made in the moment of danger and difficulty, had been all broken and forgotten.

In a fit of remorse, he breaks up the feast and retires to his bed, but:

"Prophetic fears and haggard sleep
Around his pillow form
Such shades as rest beneath the deep,
Or rise upon the storm.

The tempest comes—its midnight roar
Fell on the warrior's ear;
The bursting waves assault the shore,
Strange voices ride the air."

The Earl has a fearful dream. The northern "spirits of the storm" visit him; remind him of his broken vows, and tell him that the days of his island home are even now ended:

"Behold I come! the 'whelming seas
Beneath my footsteps roar;
Hark! fearful sound, thy destiny's
No more! fair Isle! no more!

A dreadful shadow points thy doom,
Thy day of glory's past;
To wandering barks henceforth a tomb
Where sailors shriek their last."

Amazed and horror-struck the Earl starts from sleep to find the vision only too true:

"Haste, man the bark, the toc-in ring,
A deluge pours around,
The billows o'er the ramparts spring,
And burst above the mound.

Hoarse shouts are heard along the strand—
Launch, launch, the storm-sail try—
Resistless seas invade the land,
Haste, to the vessels fly."

The Earl and his followers fly for their lives, and when morning breaks an awful sight is revealed. The bulwarks, or sea-walls, have given way, and the once

pretyt and fertile isle of Lomea is overwhelmed and destroyed for ever, and ultimately becomes the Goodwin Sands!

"'Too late,' he cries, 'my broken vows,
The ruined fields deform;
No more shall rovers there carouse,
Or shelter from the storm.'

On Stour's fair banks retired he dwelt,
And found a refuge there;
And daily with contrition knelt
In penitence and prayer."

The closing stanza refers possibly to another legend, that Earl Godwine became a hermit and dwelt near Minster, and died there in the "odour of sanctity"; that is, a person named "Godwine" may have so lived and died, but of course it was not the great Earl.

No. 6, page 26.

Sandwich Haven.

In the year 1483, an accident befell a great Spanish ship belonging to Pope Paul II., which was, in consequence, sunk at the mouth of the Haven, by which the flow of the tide was choked up, and sand and mud gathered round the wreck in great quantities.

Leland, referring to this circumstance, says: "The 'Caryke,' that was sonke in the Haven in Pope Paulus time, dide much hurt to the Haven, and gether a great banke there." This so affected the Haven that in the reign of Edward VI. it was, to a certain extent, nearly destroyed and lost, and the naval and commercial interests of the town seriously injured. The Com-

mission referred to in the text, and another which met in the reign of Elizabeth, took the matter into consideration, and a clever mechanic, John Rogers by name, commenced cutting a canal; but it was, after a short time, abandoned, as the cost—£10,000, a very large sum in those days—was declared too great. The Haven was, therefore, apparently, left to itself, although the ruin of the trade and prosperity of the town was threatened.

No. 7, page 48.

Salvage of Anchors.—"Sweeping and Creeping."

Whilst ships are lying at anchor in the Downs it often happens that a storm will arise of such severity that, to save the vessel, it becomes necessary to "slip" her anchor and chain—that is, to leave the anchor in the ground, and let the chain cable run out through the hawse-hole, by which operation both are lost in the depths of the sea. By means of "sweeping" the bottom with about 200 fathoms of small rope (weighted) having a boat at each end, it is often possible to recover these lost treasures, and it is a practice frequently attempted, though involving an immense amount of time, patience, and labour. But when the position of a lost anchor is known *exactly*—as it can be by taking "shore marks"—then the hovellers go direct to the place, and by "creeping" a chain, recover the anchor at once. When anchors and chains are thus recovered, a regular salvage allowance is awarded to the hovelling crew who had succeeded in fishing them up.

No. 8, page 55.

Cæsar's Invasion.

Julius Cæsar's first and second landings in Britain took place on the low flat shore between the present Walmer and Deal, and are referred to by the Emperor Napoleon III., in his great work, 'The Life of Julius Cæsar,' vol. ii. The date of the first invasion was the 25th of August, B.C. 55, at about 10 A.M. "His fleet consisted of eighty transports, capable of containing the two legions, the 7th and the 10th, with all their baggage; and a certain number of gallies; eighteen other vessels destined for cavalry were detained by contrary winds in a little port (Ambleteuse), eight miles from Boulogne. The effective force that really landed was probably about 10,200."

* * * * *

"The landing being effected after a furious resistance, the Romans established themselves on the heights (?) of Walmer, whilst the gallies were hauled up on the strand, and the transport ships left at anchor not far from the shore."

Cæsar's second descent took place about noon on the 20th of July, B.C. 54. "The force mustered on the shores of Gaul for this expedition was very large—eight legions and 4000 cavalry; but only five legions, or 2500 men and 2000 cavalry, actually landed. The fleet to carry this force numbered 600 transports, 28 war gallies, and a number of light barques, making probably nearly 800 sail. The landing was effected about the same spot as that on which the first took place, but

the fleet anchored very much further north, that is, in the great estuary which then existed, and afterwards became a very important Roman station and port, known as the Portus Rutupinus, and then sufficiently large to accommodate this vast collection of vessels of all sizes and draughts." (*See* Map.) Subsequently the vessels were hauled up high and dry along the levels between Deal and Stonor, and an extensive earthwork built round them, presenting the curious and most uncommon spectacle of an entrenched camp with ships in the centre, which were possibly occupied by the soldiers instead of tents.

An interesting anecdote, from the same illustrious and royal source, in connection with the landing may not be out of place:—

"A legionary named Cæsius Scæva distinguished himself in a very remarkable manner. Having thrown himself into a boat with four men, he reached a rock,* whence, with his comrades, he threw missiles against the enemy; but the ebb rendered the space between the rock and the land fordable. The barbarians then rushed at them in a crowd. His companions took refuge in their boat; he, scorning flight, made a heroic defence, and killed several of the enemy. At length, having his thigh pierced by an arrow, his face bruised by the blow of a stone, his helmet broken to pieces, his buckler covered with holes, he trusted himself to the mercy of the waves, and swam back to his companions. When he saw his general, instead of

* In the text of Valerius Maximus it is "in scopulum vicinum insulæ," a rock near the Isle. These rocks, called "Malms," are still distinctly seen, at low water, opposite Deal.

boasting of his conduct, he sought his pardon for returning without his buckler, as it was considered a disgrace among the ancients to lose that defensive arm. But Cæsar loaded him with praise, and rewarded him for his bravery by promoting him, on the spot, to the grade of a centurion." Rapid promotion for deeds of evident (not imaginary) merit was a line of policy followed by a certain other illustrious emperor and conqueror of more modern days, who delighted to make the mighty Roman his model in all things.

No. 9, page 61.

Sir Andrew Barton.

The story of this accomplished sailor—if undoubted freebooter—forms the subject of a ballad of forty-one verses, which is not only one of the most spirited and graphic of the 'Percy Reliques of Ancient English Poetry,' but, what is perhaps better, it keeps to historical fact, which is not the case, as a rule, with many of the so-called "historic ballads."

The account of Sir Andrew's death is so striking that I do not hesitate to quote the three verses which tell the story. After describing the progress of the fight, and the remarkable skill of an English archer, Horseley by name, serving on board Sir Edward Howard's ship, the ballad goes on to say:

"Sir Andrew he did swarve the tree,*
With right goode will he swarved, then
Upon his breast did Horseley hitt,
But the arrow bounded back agen.

* *i.e.*, climbed the mast.

Then Horseley spyed a privye place,
With perfect eye, in secret parte,
Under the spole of his right arme,
Ande smote Sir Andrew to the heart.

'Fight on, my men,' Sir Andrew sayes,
'A littel I'me hurt, but yett not slaine;
I'le lye mee down and bleede awhile,
And then I'le rise and fight agen.
Fight on, my men,' Sir Andrew sayes,
And never flinche before the foe;
And stand fast by St. Andrew's crosse,
Until you hear *my whistle blow.*'

They never heard his whistle blow,
Which made their heartes waxe sore adreade.
Then Horseley said, 'Aboard, my Lord,
For well I wott Sir Andrew's dead.'
They boarded then his noble shipp,
They boarded it with might and maine,
Eighteen score Scotts alive they found,
The rest were either maimed or slain."

Sir Edward returns home with Sir Andrew's ship, which he presents to King Henry VIII., reminding him of the extremely low state of His Majesty's naval forces, by saying, somewhat pointedly:

"Sir Andrew's shipp I bring with mee,
A braver ship was never none;
Nowe hath your Grace two shipps of war,
Before in England was but one,"

alluding, I presume, to the "Great Harry," and having said this Sir Edward personally presents, as a ghastly trophy, Sir Andrew's head, which he had himself struck off, and the ballad concludes with the following touch of feeling:

"But when he saw his deadlye face,
And eyes so hollow in his head,
'I wold give,' quoth the king, 'a thousand merkes
This man were alive as hee is dead.

Yett for the manfull part hee played,
Which fought soe well with heart and hand,
His men shall have twelve pence a day
Till they come to my brother King's high land.'"

The last verse exhibits a chivalrous generosity to fallen foes which, I am sadly afraid, was not always characteristic of that age.

No. 10, page 67.

Destruction of the Invincible Armada.

The Cinque Ports fitted out six very large ships, each assisted by a smaller tender, at a cost of £33,000, an immense sum for those days. The commander of one of those vessels was a native of Deal, and being himself thoroughly acquainted with the numerous shoals and banks of the neighbouring waters, contrived to decoy one of the great Spanish Galleasses on to one of the dangerous ridges of the Goodwin Sands, where she soon fell an easy prey to the well-directed fire of the Deal captain, by whom she was ultimately taken and burnt, and all her officers and crew either killed, drowned, or made prisoners.

No. 11, page 70.

Van Tromp's defeat in the Downs.

A curious discovery was made in 1836, by some labourers digging for sand, near the shore in the sand-

hills lying to the north of Deal. The workmen came upon a very long trench containing human bones so enormous in quantity that it was quite clear they could not have been the remains of any shipwrecked crew. What were they then? They were in far too good preservation to have been either Roman, Danish, or Saxon, and therefore the probability is that they were none other than the remains of the killed in the last great action between the English and the Dutch under Van Tromp in 1653, one of the most prolonged and desperate sea fights on record, and involving a fearful loss of life on both sides.

The English Admirals would naturally hesitate to throw their dead—of which they must have had a very great number on board their ships—into the sea, there in the Downs, so short a distance from the land, where the bodies might be continually washed up by the tide and exposed to public view on the shore in front of the town of Deal. The corpses, there can be no doubt, were therefore brought ashore and decently and reverently buried in the vast trench in the sandhills, where they remained undisturbed for a period of 183 years until accidentally discovered in 1836.

No. 12, page 79.

The "Warden of Pilots," Captain Thomas Canney.

A very sad instance of the uncertainty of human life is recorded in connection with this gentleman. The

very day after he had steered Mr. Pitt round the fleet of loyal hovellers, when everything looked hopeful and bright, and every one was in the highest spirits, Captain Canney and a party of four friends sailed from Deal on a pleasure trip to Ramsgate in a private yacht. On nearing the latter town, instead of sailing into the harbour, as they might easily have done, the party, with four sailors, got into a small boat, which was almost instantly upset by the very strong tide then running down with great rapidity, and all on board but the four sailors were drowned before any help could be rendered from the shore, though scores of ready and willing hands were standing about.

No. 13, page 93.

The Barons of the Cinque Ports.

The establishment of the Cinque Ports dates from Edward the Confessor, though their complete organization must be referred to William I. The original five ports were Sandwich, Dover, Hythe, Romney, and Hastings, which latter is the premier Cinque Port; and these being the five which lie towards France, it appears to have been thought necessary that they should be carefully preserved against invasion. King William I. erected the district into an independent government, and appointed as its governors a warden and twenty-five barons. King John granted the Cinque Ports very great privileges on condition that they should provide eighty

ships at their own cost for forty days, as often as he should have occasion for such service. Sandwich supplied five ships with twenty-one men each; Dover, twenty-one ships with twenty-one men each; Hythe, five ships with twenty-one men each; Romney, five ships with twenty-four men each; and Hastings, twenty-one ships with twenty-one men each. For these services each Cinque Port was to send two (out of its five) barons to represent them in Parliament, and besides this, many further privileges were granted to these gentlemen.

Although the title of a "Baron of the Cinque Ports" has now passed away, yet formerly it was an office of vast importance. These "Barons" inherited the duties and privileges of the courts of the "Saxon shore" (Litores Saxonianæ) as they were known to the Romans, and always bore themselves with princely hauteur. At the coronation of James I. they attended with their peers "dressed in doublets of crimson satin, scarlet hose, and scarlet gowns faced with crimson satin, black velvet shoes, and caps of the same fastened to their sleeves." They stood, with their canopies fitted with silver staves and silver bells, at the upper end of Westminster Hall, and, as the procession advanced, sixteen of them received the Queen under their canopy, and the King was received by sixteen in the same manner. The passage from Westminster Hall to the Abbey was covered with broad blue cloth, strewed with sweet herbs and flowers. At dinner the Barons of the Cinque Ports were privileged to sit at a well-spread and well-furnished table to the right of the King; and it is related that, so tenacious were they of their

privileges, that on the occasion of the coronation of King George III., the table provided for them not having been put in its proper place, they refused to sit in any other! Amongst other immunities, these "Barons" were exempted from subsidies and other aids; their heirs were free from personal wardships and tolls, and they could be impleaded only in their own towns; and lastly, they enjoyed the very important privilege of marrying their heiresses to whom they pleased, without the necessity of obtaining the consent of the King beforehand!—a "privilege" which, in these days, is calculated only to raise a smile.

Most of the privileges of the Cinque Ports were ultimately abolished on the establishment of a royal navy at the Restoration, because the principal service of furnishing ships and men in the time of war was, in consequence, no longer required at the hands of the Barons.

No. 14, page 105.

Smuggling.

The statement in the text as to the difficulty of making these men see that there is any offence in smuggling, though written some years ago, has been fully confirmed by an article in the *Daily Telegraph* of the 5th of August, 1884, from the pen of an elegant writer, very well known for his graphic and truthful sketches of matters connected with the sea and sea-

farers. The article states that, being in conversation with an aged Dealman, who, sixty years ago, and his father before him, had been regular smugglers, he (the writer) proceeds: "The old man talked with a great air of relish of what he had done, and said that, for his part, he could never see what wrong there was in robbing the Revenue. 'If a man,' he said, 'chose to buy articles in France, he had a perfect right to get them into England free of duty if he could, so as to make a fair profit by the sale of them.'

"When I asked him if his conscience ever pricked him for having defrauded the Revenue, he withdrew his pipe from his mouth and stared at me with so much slowness of astonishment that it seemed to me almost five minutes before his mind had developed the full extent of the wonderment my question had raised in him. He then expressed himself with so much contempt for the Revenue, and inveighed with so much heat against the 'authorities' for 'fining and locking up poor men for only buying goods on one side of the water, and striving to get a respectable living out of them on the other side'—that, in order to divert his mind from the irritating subject, I found it necessary to order another glass of rum for him." It may be added that the good old salt always took his rum neat, and when his entertainer offered him water with it, he replied, "No, much obliged—I never take water in any shape, leastways with rum, which I've drunk for years, neat as it's made!"

Another curious statement was made by the old man, and that was, that when on a "smuggling job," they never carried arms, or attempted the least resistance,

or offered violence, if overtaken; but they did their very best to get away if chased, which the fine sailing of the Deal galley-punts generally enabled them to do easily enough.

The reader who is at all curious in such matters is referred to an interesting article in *Chambers's Journal* of the 30th of December, 1882, No. 992, page 827, entitled "Ingenious Smugglers," in which will be found an elaborate account of the extraordinary devices and contrivances adopted about the beginning of the present century, by these cunning *contrabandistas*, for landing, concealing, and ultimately disposing of their foreign produce, for which there always seemed to be a ready market.

No. 15, page 118.

Captain Bullock's Refuge or Safety Beacon.

If any men in the world are judges of such questions as the utility of beacons on the Goodwin Sands, it is certainly the Deal pilots, and the following gratifying testimony was addressed to Captain Bullock by that body in October, 1841. We give it here, *in extenso*, as much misunderstanding seems to have existed as to the actual utility of this ingenious invention:—

"Sir, "Deal, October 18, 1841.

"We, the undersigned pilots of Deal, do hereby certify that, in our opinion, the Safety Beacon, which, you have erected on the Goodwin Sands, will be the

means of preventing vessels from running on those dangerous shoals, and that it is likely to prove instrumental in the saving of life and property; and we therefore strongly recommend that others of a similar description be placed wherever they may be useful to navigation.

"We have the honour, &c., &c.

(Signed)

John Watson, Warden.	Thos. Gardner.
William Hadlow, Warden.	Richd. Russell.
Stephen Collard.	Robt. Atkins.
William Mackie.	J. B. Thornton.
Walter Gafford.	Wm. Larkins.
C. Miller, Warden.	Thos. Dair.
Rd. Rogers.	Robert Pordige.
James Barber.	James R. Dowers.
Henry West.	Richd. Mowle.
Bennet Paul.	Stephen Friend.
Thomas Bayley.	

"To Captain Bullock, R.N.,
H.M.S. 'Fearless.'"

Visit of Prince Albert to Bullock's Beacon.

During the month of November, 1842, Her Majesty and Prince Albert were staying at Walmer Castle on a visit to the Duke of Wellington, then Lord Warden of the Cinque Ports. Prince Albert, having heard a great deal of Bullock's famous "Refuge Beacon," determined to make a personal inspection of it, thereby giving one of the many proofs of the bright intelligence of his highly cultivated and inquiring mind, always ready to gain information on any subject of

peculiar interest, scientific or otherwise. Accordingly, on the 30th of November, 1842, H.R.H. left the castle at noon, and was rowed in the gig to the 'Fearless,' commanded by Captain Bullock. The vessel at once steamed out for "Trinity Bay," where the beacon then stood. The water was, unfortunately, too high to allow of landing, but the 'Fearless' steamed round the beacon as near as possible, whilst Captain Bullock explained its construction and uses very fully to the Prince. H.R.H. manifesting the greatest interest in the description and its various details, and expressing his unqualified admiration at the great ingenuity and extreme simplicity displayed in its erection. H.R.H. was also much delighted at the animated appearance of the Downs, observing that "it far exceeded in variety and interest anything that could be witnessed off the coast of Sussex, or near Brighton, to which," he added emphatically, "this cannot be compared for a moment."

No. 16, page 131.

Choice of Site of Bush's Lighthouse Beacon.

The site selected for the erection of Mr. Bush's Lighthouse Beacon was so faulty, that a lighthouse in such a position would have been actually dangerous to shipping, as stated in the text, and for this reason Mr. Bush was required to take down the structure on which he had expended so much time, labour, and money. Mr. Bush always considered that he had been

hardly treated by the Admiralty, inasmuch as he was kept waiting, in the first instance, for nearly *three years* by that Department, before he could get any answer or decision in regard to his proposals; and secondly, that the site of the intended Lighthouse Beacon had not been chosen by himself, but by the Admiralty, as will be seen by the following extracts from the correspondence between Mr. Bush, the Trinity Board, and the Admiralty, and from his "Evidence" before the "Parliamentary Select Committee on Lighthouses, 1845," which will be found at length in their printed "Report."

Extract from letter from Mr. Bush to Trinity Board, dated June, 1845:—

"On the 8th of September, 1841, Captain Bullock received instructions from the Admiralty to proceed to the Downs, and to place the buoy on that part of the Sands on which the Caisson now stands. . . . Captain Bullock laid the buoy, and the 'Monkey' and 'Lightning' steamers towed out the Caisson to the exact situation selected by the *advice of the Admiralty.* I therefore humbly submit that after I have expended my time and labour on this national undertaking, with the sanction and co-operation of the Admiralty, it will now be a case of the greatest hardship if your Honourable Board shall pass an interdict condemning the structure on the ground that its locality is not advantageously chosen."

Extract from Mr. Bush's evidence before the Committee (page 317):—

"The site was marked on the plan settled by Captain Beaufort. A buoy was then placed, and I was directed to

put the caisson down *on that spot* on the North Calliper. The caisson was placed upon the exact spot pointed out by Captain Bullock by direction of the Admiralty. Captain Beaufort marked the spot upon the plan, and gave me directions to place it (the caisson) on that buoy."

Extract from letter from the Trinity Board to Mr. Bush, dated 29th May, 1845:—

"I am directed to acquaint you that the Elder Brethren do not deem it necessary at this time, to question the correctness of your statement in respect of the permanency of the 11-inch iron pipe which you have set up, and connected to the remains of the wreck of your original caisson; or of that of the iron framework and wooden enclosure by which the said pipe is surmounted; or of its being readily convertible into a lighthouse; but they direct me to acquaint you that the exhibition of a light in the situation in which you have so set up the said pipe, &c., would prove extremely injurious to the safety of shipping, and I am therefore further directed to recall your attention to the notice which was served upon you by order of this Board in the month of September last (24th September, 1844) and again to request you, in the terms of that notice, to desist from your proceedings in this matter."

As a piece of neat official satire, the first part of this letter is perhaps unequalled, where reference is made to the shaft or column as an "11-inch iron *pipe*, founded on the 'remains' of a '*wreck;*'" and to the upper works as an "iron framework, and wooden enclosure which may be *convertible* into a lighthouse." The polite, well-bred contempt of the whole scheme here exhibited is inimitable.

But any disinterested person reading these statements *must* arrive at the conclusion that Mr. Bush was very hardly—not to say most unjustly—treated by the caprice exhibited by the Lords of the Admiralty in first themselves selecting a site for the lighthouse, and then in condemning Mr. Bush for having strictly followed their *own* orders!

No. 17, page 167.

Admiral Basil Beaumont.

Basil Beaumont was the fifth son of Sir Henry Beaumont of Stoughton, Leicestershire. He was born in 1669, and entered the Royal Navy at a very early age. He appears to have seen much service, and was promoted accordingly, attaining the rank of Admiral before he was thirty-two, which, however, he only held for two years, as he perished miserably on the Goodwin Sands, at the age of thirty-four, in the great storm of 1703.

No. 18, pages 146, 167.

Wreck of a whole Fleet.

So appalling a disaster as the loss, at the same time and in the same storm, of an *entire fleet* of men-of-war, such as that referred to in the text as having happened in the Downs on the night of the "Great Storm," the 26th of November, 1703, is, happily, but of very rare

occurrence—so rare, indeed, that it may not be out of place here to state that there is only one other such case on record. This took place in the West Indies on the 10th of October, 1780, in one of the most tremendous hurricanes that ever visited those islands, when no less than fifteen British men-of-war were totally lost. Their names and armaments were as follows:—

	Guns.		Guns.
'Thunderer'	74	'Deal Castle'	24
'Stirling Castle'	64	'Penelope'	24
'Defiance'	64	'Scarborough'	20
'Phœnix'	44	'Barbadoes'	14
'La Blanche'	32	'Chameleon'	14
'Laurel'	28	'Endeavour'	14
'Shark'	28	'Victor'	10
'Andromeda'	28		

Most of the officers and crews perished with their ill-fated ships, as no boat could possibly live through such a terrific tempest, though a few did, in some miraculous manner, contrive to escape; how, it is difficult to conceive.

It will be observed that, by a singular coincidence, a ship called the 'Stirling Castle' was lost in this storm, as also was one of the same name in the great hurricane of 1703 in the Downs.

No. 19, pages 40, 116.

Accidents or Misadventures.

A singular and unlooked-for danger appertaining to these terrible Sands was the cause, a few years ago, of

the death of four men under circumstances of the most painful and melancholy character. A man named Byass and three comrades appear to have landed on the Sands at low water, and, running their boat ashore, grounded her there; but in doing so, she is supposed to have struck on the embedded and broken timbers of some unfortunate ship lying buried just below. By this means a large hole seems to have been knocked in the bottom of the boat, and she therefore became utterly useless in consequence, and the poor fellows could do nothing but remain on the Sands, and trust to some passing craft taking them off. Many vessels certainly must have passed, but the four men do not appear to have been seen by any of them but one, a large sailing barge, which, however utterly incredible it may appear, like the Priest and the Levite, "passed by on the other side," leaving the unfortunate men to their awful fate. This fact came out subsequently, when the boat was found and inquiries instituted, and the only reason the crew of the barge gave for their heartless and unsailorlike conduct was "that they did not suppose there was anything wrong, but that seeing the men on the Sands rushing about and waving their arms in a wild, frantic manner, concluded that they were only playing tricks or skylarking!" As if any one, out of Bedlam, would dream of choosing the Goodwin Sands, *with a rising tide*, as a place for "playing tricks or skylarking." About as poor and despicable an excuse as could well be made for a piece of cold, callous, cruel indifference to the sufferings of four fellow-creatures in the immediate prospect of certain death.

The inevitable consequence was that these most unfortunate men were left on the Sands, there to meet with a slow and most awful death; for it is difficult to conceive a fate more utterly appalling than that which befell these poor fellows. To find themselves on the Goodwins at low tide, with the positive certainty that the spot on which they were standing will be covered by many feet of slowly rising water in less than four hours, and with every hope of escape cut off, although scores of ships were passing before their very eyes, but alas! all too far off to communicate with. All this time the remorseless waters are gradually creeping up, and as gradually, but most surely, approaching the helpless sufferers. Higher and higher they rise, until the victims are engulfed, and with one last and despairing effort the unequal and terrible struggle is ended, and the victims sleep beneath the waves, and thus four more strong hearts and useful lives are added to the long and disastrous death-roll of the Goodwin Sands.

Hood has some touching lines in one of his smaller poems which are singularly appropriate to this sad story:

* * * *

"And whilst he stood, the watery strife
Encroached on every hand;
And the ground decreased—his moments of life
Seemed measured, like Time's, by sand.

* * * *

And lo! the tide was over his feet;
Oh! his heart began to freeze,
And slowly to pulse; and in another beat
The wave was up to his knees.

And he was deafened amid the mountain tops
And the salt spray blinded his eyes,
And washed away the other salt drops
That grief had caused to arise."

* * * *

In the month of August, 1884, a party of "excursionists" from Ramsgate were landed on the Sands at low water; and by some extraordinary oversight on the part of those in charge, who certainly ought to have known better, the tide was allowed to come up *before* the party could be got together, and a fresh breeze arising also, the transit across the Sands in a small boat to gain the cutter became a work of both risk and danger. After much trouble, however, the party ultimately returned in safety to Ramsgate.

A very singular and unusual accident happened during the night of the 26th January, 1884, when a schooner named the 'Alliance,' of Beaumaris, bound to Antwerp, was driven completely *through* the iron pier of Deal by the force of a terrific gale which blew from the south-west, and raged with extraordinary fury throughout the whole night. This gale was reported at the time by the Meteorological Office as the heaviest and most violent storm which has visited these shores for many years. Wind, thunder, lightning, rain and hail, with stones as big as large peas, prevailed during the evening and night, doing immense damage not only at sea, but along the coasts and on shore as well. The above-named vessel struck with great violence against the south side of Deal pier, about thirty yards from the shore, and was forced by the tempest between the piles, in on one side, and out at

the other, breaking her masts off at the deck level, and displacing several of the iron piles on which the pier rests, doubling up the iron stays and tie-rods on all sides. Two of the iron piles had fallen across the schooner's deck, smashing her bulwarks, and destroying the boat then resting on the deck. Carrying these with her, she worked through the pier, and was rolling about in a most helpless state on the north side, when the crew were rescued by the Deal men, only with the utmost difficulty, by means of ropes thrown from the beach. The rocket apparatus had been sent for; but before the cart containing it arrived, all the men had been rescued, and were safely housed on shore.

During the darkness of the same night, the Deal lifeboat went out and rescued a ship in great distress on the Brake Sandbank, in the Small Downs, and took both vessel and crew into Ramsgate Harbour. The greatest difficulty is always experienced in launching from the beach in the teeth of a heavy gale. Several Deal luggers made the attempt, the 'Albert Victor,' the 'Success,' and others, but they were thrown back, or, as the local phrase goes, "knocked up along," nearly capsized, and all but destroyed.

No. 20, page 223.

The Lifeboat.

One of the oldest friends and warmest supporters of the cause of the lifeboat was the late Thomas Chap-

man, Esq., F.R.S., F.S.A., a native of Whitby, a man of high standing and great influence in the City of London, and for forty-six years chairman of "Lloyds." So far back as the year 1824 he joined the Lifeboat Institution, and ultimately became chairman, treasurer, and vice-president, his connection with the Institution only terminating at the close of his long and useful life in December, 1885. But not merely did Mr. Chapman assist the Institution with his influence and his wealth, he also devoted his quick intellect to thoroughly mastering both the details of the building and of the working of the boats; and many of the improvements found in the pattern now adopted owe their origin to Mr. Chapman's perspicacity. It is also a remarkable fact that when Mr. Chapman's connection began, the Institution possessed only eight boats; but, at the period of his resignation, there were nearly three hundred in use at their several stations. Shortly after his death, the Duke of Northumberland, President of the Institution (writing to Mrs. Eugenia Noel, Mr. Chapman's only child), pays his deceased friend this graceful compliment: "Occupying a foremost position in the commercial world, and possessing extraordinary administrative powers, he uniformly employed these advantages to advance the best interests of the lifeboat cause which he had so much at heart; and by his decease the Institution has been deprived of a warm friend and a great benefactor, whose loss will long be sincerely deplored."

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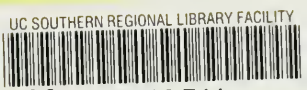

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